TABLE OF CONTENTS

Vol. 31 THE OIL AND GAS JOURNAL, December 1, 1932 No. 28

Special Articles

Better Feeling Evident as Texas Commission Sets Allowable Substantially Under Nominations ---- 7
By ANDREW M. ROWLEY

Changing Conditions in Oklahoma City Will Necessitate Lifting Soon ---- 8
By S. F. SHAW

Commission Holds East Texas to 325,000 Bbls. on Bottom Hole Pressure-Acreage Basis ---- 9

Nominations for Texas Crude by Various Companies ---- 9

Treating Lubricating Oils with Sulphur Dioxide ---- 10
By O. P. COTTRELL

Eastern Pipe Line Capacity Doubled When Flow Reversed ---- 11-12
By E. H. FORTMANN

Unique Features in Steel Island for Drilling ---- 13
By L. P. STOCKMAN

Increasing Utilization of Fuel Oil Fractions ---- 14-16
By R. P. RUSSELL and W. V. HANKS

What is Market Demand? (Editorial) ---- 18

Selection of Wire Rope for Rotary Rig ---- 32
By A. S. RAIRDEN

Field Problems From Readers ---- 76
Edited by THOMAS F. SMILEY

Field Operations

Late Fields ---- 32

East Texas ---- 39-40
By L. E. BREDBERG

West and North Texas ---- 41
By L. E. BREDBERG

New York and Pennsylvania Gas Fields ---- 42

Southwest Texas ---- 48
By B. D. STEVENSON

Oklahoma ---- 49-50
By W. A. SPINNEY

Kansas ---- 51
By W. A. SPINNEY

North Louisiana-Arkansas, Mississippi ---- 52
By D. H. BANCROFT

Gulf Coast ---- 53
By NEIL WILLIAMS

California ---- 54
By L. P. STOCKMAN

Michigan ---- 55
By GEORGE A. WHITNEY

Central West ---- 56
By GEORGE A. WHITNEY

Eastern Fields ---- 56
By STAFF CORRESPONDENT

Rocky Mountain Area ---- 58
By TOLBERT R. INGRAM

Canada ---- 59
By VICTOR LAURISTON

Refining and Marketing

Natural Gasoline Advance in Oklahoma Reflects Demand for More Volatile Motor Fuels ---- 20
By C. O. WILLSON

A.P.I. Refinery Report ---- 21

Tight Distillate and Fuel Market in Chicago ---- 22
By ROBERT C. CONINE

East Coast Market Improves ---- 23
By A. E. MOCKLER

Refinery and Crude Prices ---- 24-25

Tank Wagon Markets ---- 26

News for Sales Departments ---- 27

News for Petroleum Refiners ---- 28

Simrall Refinery in Canada to Give Flexibility ---- 28

Trend Toward High Notch Motor Fuel Vapor Pressures 29

Natural Gasoline Manufacture ---- 29

Technical Questions Answered ---- 70
By C. K. FRANCIS, PH. D.

General Departments

Personal Paragraphs ---- 72

Natural Gas Developments ---- 74

New and Improved Equipment ---- 78

Classified Advertising ---- 79

Index to Advertisers ---- 80

Refinery Section Starts on Page 20

Branch Editorial Offices

CHATHAM, ONTARIO, CANADA, Victor Lauriston, 35 Stanley Avenue. CHICAGO, ILL., Robert C. Conine, Room 1416, 6 North Michigan Avenue. DENVER, COLO., Tolbert R. Ingram, 130 State Office Building. FORT WORTH, TEXAS, L. E. Bredberg, 601 Petroleum Building. HOUSTON, TEXAS, Neil Williams, 1116 Second National Bank Building. LOS ANGELES, CALIF., L. P. Stockman, 522 Union Oil Building. MUSKEGON, MICH., Paul A. Elliott, Chronicle Office. NEW YORK, N. Y., A. E. Mockler, Suite 2803, No. 19 Rector Street. OIL CITY, PA., Leon H. Walter, Oil City Derrick. SAN ANTONIO, TEXAS, B. D. Stevenson, 1504 Milam Building. SHREVEPORT, LA., D. H. Bancroft, 540 Ricou Brewster Building. TOLEDO, OHIO, George A. Whitney, Box 98, Main Post Office. WASHINGTON, D. C., Charles E. Kern, 606 District National Bank Building.

Branch Advertising Offices

CHICAGO, ILL., C. R. Farmer, 6 North Michigan Ave., Room 1416.
CLEVELAND, OHIO, Howard Markt, 802 Leader Building.
HOUSTON, TEXAS, Neil Williams, 1116 Second National Bank Building.
NEW YORK, N. Y., C. L. Cain, 415 Lexington Ave.
LOS ANGELES, CALIF., J. H. Tinkham, 2941 Raymond Ave.

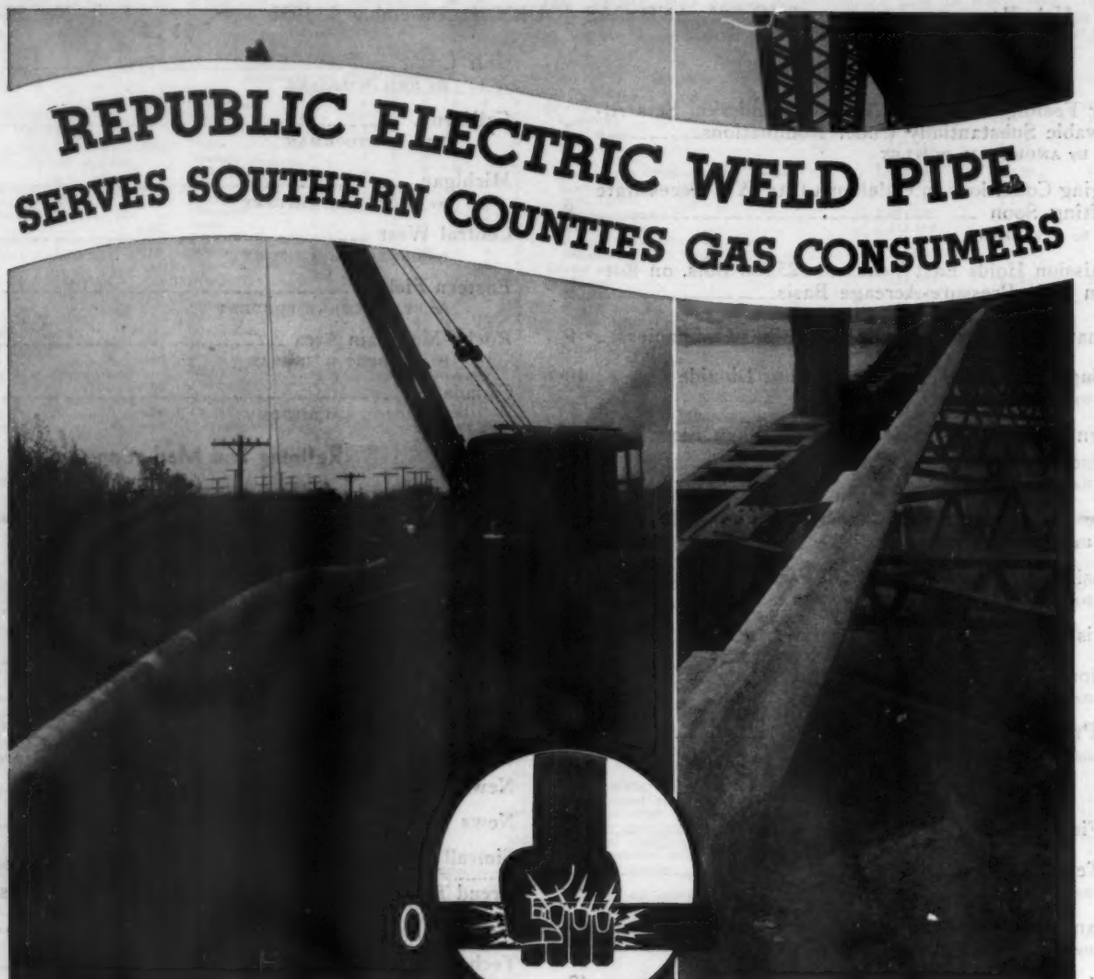
Terms of Subscription

(By Mail, Postage Prepaid)

Current Issue - - - - - - - - $ .15	Six months - - - - - - - - - $3.00	One year (in Canada) - - - - $7.00
Three months - - - - - - - - $2.00	One year (in United States) - - $6.00	One year (foreign countries) - - $7.00

Copyright, 1932, by The Petroleum Publishing Co.

REPUBLIC ELECTRIC WELD PIPE SERVES SOUTHERN COUNTIES GAS CONSUMERS



A RECENTLY completed gas line constructed by Southern Counties Gas Company, from Huntington Beach to San Diego, Calif. used 88 miles of Republic Electric Weld Pipe—68 miles of 12-inch and 20 miles of 8-inch, and represents one of the largest pipe orders from the Pacific Coast in 1932.

The line passes through the hilly section of Southern California and through thickly populated territory where cost of replacement would be prohibitive. Consequently only the most dependable materials could be considered. Black pipe was used underground, and, where the line crosses the San Luis Del Rey River, extra heavy pipe, heavily galvanized, was used.

These, briefly, are the qualities of Republic Electric Weld Pipe that have led to its selection by so many of the large buyers of line pipe—its strength of weld—its straightness—its uniform wall thickness—its roundness—its freedom from scale inside and outside—and long lengths.

If you haven't seen Catalog 210-B, telling all about this better pipe, write for your copy today.

REPUBLIC STEEL CORPORATION
GENERAL OFFICES YOUNGSTOWN, OHIO

REPUBLIC
ELECTRIC WELD
LINE PIPE • CASING • TUBING

Better Feeling Evident as Texas Commission Sets Allowable Substantially Under Nominations

By ANDREW M. ROWLEY

BEST news of the week is the announcement of the Railroad Commission of Texas covering allowables for the different fields in that State which shows that the commission realizes nominations do not in all cases represent true market demand. Additional satisfaction is given by the order of the commission placing proration in East Texas on a scientific and equable basis. As this publication has contended conservation in East Texas must be based on scientific facts and the best basis is that which makes bottom-hole pressure an important factor.

It was discouraging to those making an earnest effort to stabilize conditions to learn nominations had been made in Texas for four months, beginning December 1, for more than 1,000,000 barrels of crude oil daily. The inconsistency of these nominations would have been ludicrous were it not that they were official filings, thereby showing plainly an effort to tear down the entire price structure of both crude and refined oil markets. If there were not a sufficient market for a production of 860,000 barrels daily, and there could not have been or one company would not have been storing 40 per cent of the crude from its connections, it is almost inconceivable that anyone would expect the Railroad Commission of Texas to permit an increase in output of nearly 250,000 barrels daily during the season of minimum demand.

Permanent fixtures in the oil business should exert strong pressure on perpetual trouble makers to prevent them from carrying on these efforts to wreck the business. The industry is in a splendid statistical position and the stage is all set for every branch to move forward to better times. Uncertainty has been the greatest obstacle to real progress and this uncertainty has been caused by the continued endeavors of selfish interests to overthrow established practices. Too much is at stake to permit this uncertainty and it is all important that the trouble makers be squelched once and for all time.

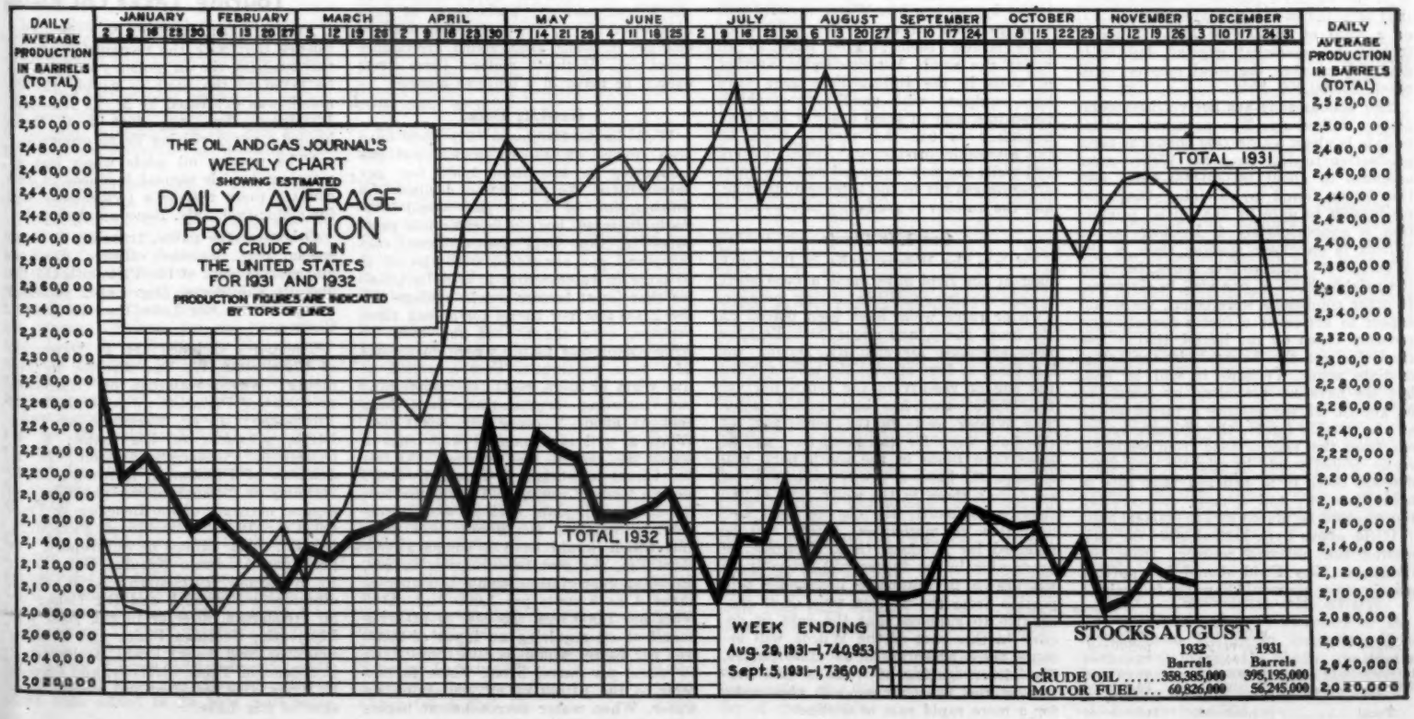
Right now the best thing for the petroleum industry would be a period of relief from uncertainties regarding probable crude oil production and possible litigation tying up orders of state regulatory bodies. It should be easy to assure such a period. When the oil business knows what it can expect in way of production from different fields throughout the country, markets will be on a firmer basis. Fairly accurate estimates are available on consumption and crude oil requirements so the industry is in a position to plan its business on a sound basis.

Crude Oil Production in the United States

Estimated daily average production for the week ending November 26, and a comparison with previous week and one year ago, follows:

	Nov. 26	Nov. 19	Nov. 28, 1931
Oklahoma—			
Oklahoma City	58,740	73,830	166,135
Seminole-St. Louis	106,685	111,235	146,810
Remainder of State	201,415	202,495	210,490
Total Oklahoma	366,840	387,560	523,435
East Texas—			
Lathrop	138,235	136,662	125,342
Kilgore	107,316	106,038	131,041
Joiner	114,444	112,985	131,601
Total East Texas	359,995	355,685	387,984
West Texas	165,127	164,847	190,855
North Central Texas	72,621	72,455	82,651
Texas Panhandle	45,436	45,605	55,608
East Central Texas	49,315	49,220	56,478
Gulf Coast Texas	119,450	120,866	121,746
Southwest Texas	57,684	58,239	64,710
Total State of Texas	869,628	866,917	969,032
Kansas	102,320	96,720	104,785
North Louisiana	28,895	29,500	29,130
Gulf Coast Louisiana	34,793	36,395	32,135
Arkansas	33,885	33,755	37,525
Eastern Fields	120,000	123,000	125,000
Rocky Mountain area	74,911	74,286	91,555
California—			
Santa Fe Springs	57,250	56,000	62,500
Long Beach	69,000	70,000	74,500
Playa Del Rey	13,500	13,500	23,000
Elwood	13,000	13,300	23,500
Kettleman Hills	63,000	60,000	64,000
Remainder of State	255,250	256,200	256,500
Total California	471,000	469,000	504,000
Total United States	2,102,272	2,117,133	2,416,597

Decrease 14,861 Bbls. Daily



Changing Conditions in Oklahoma City Oil Field Will Necessitate Mechanical Lifting Soon

By S. F. SHAW
Consulting Engineer, San Antonio, Tex.

The Oklahoma City Field is the only oil field in the state that could prove a serious disturbance to the regulated production of oil. Seminole has been gradually declining, and it is probable that if opened to capacity for a period of 90 days the maximum production would be not far above the allowed production at the present time. Production in the Chandler, Fish, Tatums and other smaller fields would not present a serious problem.

While the Oklahoma City Field would present a serious problem for a short while if it were opened to maximum capacity at the present time, it is believed that the condition of the field is such that the large flush would decline very abruptly similar to a well when first drilled in. By far the major portion of the production to be won in the future will be from the Wilcox area, where the wells are closely spaced, and this close spacing would bring about a very rapid decline despite the great thickness of sand.

The Oklahoma City Field has been classified in three general zones as follows:

1. Arbuckle or Siliceous lime zone.
2. Intermediate zone, lying between the Wilcox and the Arbuckle.
3. Wilcox zone.

The Arbuckle zone was the first area opened. Aggregate initial of all wells in this zone was about 1,100,000 bbls. Production has declined to a point where the future production will be negligible. Total production from this zone has been about 18,000,000 bbls. The factor derived from dividing the total recovery by the initial production is approximately 17.

The Intermediate zone has had an aggregate initial of approximately 3,000,000 bbls. Total production to date from the Intermediate zone is about 40,000,000 bbls. The factor obtained by dividing the quantity of oil produced to date by the aggregate initial production is 13. Will the ultimate recovery reach a point that establishes a factor greater than 17, or a total of 51,000,000 bbls.? Possibly it may be somewhat greater, but it is doubtful whether the total recovery will reach 60,000,000 bbls.

The Wilcox zone has not yet been completely drilled up. The aggregate initial to date is about 12,200,000 bbls. The total production to date from the Wilcox zone amounts to about 50,000,000 bbls., and the factor found by dividing the total production to date by the initial production is approximately 4. Drilling in the Wilcox is on closer spacing than in the Arbuckle or Intermediate zones, being in the neighborhood of one well to six acres. If other conditions were equal, we would expect to arrive at a factor for ultimate recovery based on the initial, that is less than that for the Arbuckle or the Intermediate zones. Perhaps it will be less, but we have no precedent by which to be guided. If we assume a factor of 17 as the outside figure, the ultimate recovery from the Wilcox zone from wells already drilled would be slightly over 200,000,000 bbls. It is believed that this is high, however, and a more conservative figure could be placed at 175,000,000 bbls.

If the above hypothetical basis for estimating the ultimate recovery from the Oklahoma City Field should be approximately close, we would have the following:

Zone—	Barrels ultimate recovery	Barrels already produced
Arbuckle	18,000,000	18,000,000
Intermediate	60,000,000	40,000,000
Wilcox	175,000,000	50,000,000
Total	253,000,000	108,000,000

Bottom hole pressures in the Oklahoma City Field have been high, and this combined with a fairly high associated gas content has permitted the wells to be flowed naturally for a major part of their productive life in the Arbuckle and Intermediate zones.

Mechanical Methods

Mechanical methods that have been employed to some extent for lifting the fluid are as follows:

Swab, beam pump, submerged centrifugal pump, working barrel actuated by submerged compressed air cylinder, gas lift and plunger lift.

The swab has proven to be of value in many fields, and where conditions are such that the operator is undecided as to what method to employ the swab can be used to fill in a temporary gap.

The beam pump has been employed for deep wells in California where the production is not beyond its capacity. Water conditions in the Arbuckle have limited the usefulness of the beam pump in this zone. Whether conditions in the Wilcox zone will permit of the use of the beam pump remains to be determined. If water does not encroach in the Wilcox as it has in the Arbuckle and Intermediate zones, it is possible that the beam pump may be tried out more extensively than it has in those two zones. The submerged centrifugal pump has proved capable of lifting large quantities of fluid in the Winkler, Powell and Beebe Fields, and was employed in one well in the Oklahoma City Field. The cost per barrel of fluid lifted in the Winkler and Powell Fields was low.

The plunger lift is now being tried out on a well in the south part of the Intermediate zone, but has not yet been installed sufficiently long to furnish definite data covering a range of conditions.

The gas lift has been employed to large extent in the Arbuckle zone where the natural flowing condition was followed by the gas lift. Water invaded this zone to such an extent that the wells have largely been plugged back to an upper gas sand. A considerable number of wells in the Intermediate zone have been equipped with gas-lift to establish potentials, and in some cases it has been necessary to use this method to make the allowable production. Approximately 100 wells are now equipped and are operating on gas-lift in the Intermediate zone, and the number is gradually increasing.

Gas Lift Plants

Of late the Wilcox wells in the south part of the field have made a good start toward requiring artificial lifting methods. Two or three wells have been placed on the beam pump, and about 20 wells have been equipped for gas lift. During the last three or four months the move toward the use of gas-lift in the south part of the Wilcox zone has been rather rapid. The Wilcox wells in the north part of the field were for the most part drilled later than those in the south part, and these wells have a greater thickness of sand than those in the south part of the field, consequently the change from natural flow to mechanical lifting will be deferred for a longer time. However, as production in the future will probably be withdrawn in gradually increasing proportion from the Wilcox zone, it is reasonable to suppose that the rate of decline in this part of the Wilcox will become more accentuated as time passes. The closer spacing of wells in this portion of the Wilcox zone will also make for a more rapid rate of decline.

A considerable number of wells in the north Wilcox zone has been drilled by small companies, and the question of the method best to employ, and the equipment most suitable to use for mechanical production is one of considerable importance. The larger companies are studying the various methods that might be employed and will probably be in a position to take advantage of the latest developments even though this might require a change from provisions already made. The smaller companies are not in a position to do the experimenting that can be done by the larger companies and will probably want to be certain that methods adopted can be depended on to carry their wells through to exhaustion.

Features as to installation of the ordinary pumping equipment are fairly well understood even by the smaller companies if they have had any previous experience. The use of gas-lift equipment for these deep wells is not so well understood, and some comments may be of interest. The installation of a compressor plant at each well for gas-lift operations would entail a heavy burden on the small operator. It might be feasible for the operators of three or four adjacent wells to combine and build a joint plant, at least as long as potentials are established on only one well at a time, and also as long as the wells need to be flowed for only a short period each day to obtain the production allowed.

If the price of natural gasoline should become of sufficient importance that a profit could be made by extracting it, additional compressor equipment would be necessary and could then be installed.

The idea is held by a good many operators using gas-lift, that there is a saving in omitting orifice gas meters and pressure gauges. It has been the experience of the writer that these meters are a most valuable part of the installation as they assist the operator to ascertain whether the well is being operated in the proper manner. Tests made at suitable intervals on the well often lead to changes of some kind which are highly beneficial. Without meters these tests cannot be made in a definite manner.

Gas-Lift Data

Wells in the Oklahoma City Field have been flowed on gas-lift with input gas amounting to less than 1,000 feet per barrel lifted. As production declines the consumption of input gas would normally increase, but the bottom-hole pressures in this field are comparatively high, and gas associated with the oil is so large in volume that it is quite possible that input factors would average under 2,000 feet per barrel for a long time, perhaps, over the life of the well. In large compressor plants where operations have been continuous over a period of five years or more, costs for compressing gas, including depreciation, have been held at about 2 cents per 1,000 feet. When a well is connected with such a plant, the gas-lift cost where 2,000 feet per barrel input gas is required, would be two times 2 cents, or 4 cents per barrel. In a small plant such as would probably be required for about four wells and which would have a comparatively short life, the cost for compressing gas, including depreciation, would probably be about 4 to 5 cents per 1,000 feet. At 5 cents per 1,000 feet, the cost of lifting a barrel of oil requiring an input of 2,000 feet per barrel would be five times 2, or 10 cents, per barrel lifted. These factors refer to the lifting of oil containing no water. When water encroachment begins to take place, the input factor based on the barrel of oil will be increased and the lifting cost will be correspondingly increased.

The necessity of changing to pumping equipment as wells change in their production has caused a great deal of concern in the minds of production managers. In the shallow fields, wells are flowed as long as they will flow naturally, then if the quantity to be lifted is large, individual pumping units have been installed. After the wells decline to a low rate, individual pumping units have been displaced by central powers. These changes require the expenditure of much capital, and many executives are endeavoring to devise plans for reducing these changes to a minimum.

While it is true in many deep fields in which the wells are capable of making so large production that the only practicable method so far developed has been the gas-lift, nevertheless the later life of these wells may require a change when production becomes reduced and water encroachment is severe. This change would not be costly if it were not for the necessity of changing the entire power plant equipment that handles the well. Pumping engines must be installed at the well and must be housed, and rig fronts must be put in if they have not already been installed. A new development[1] that has been worked out by the Pure Oil Co. is that of a compressed air pumping head suspended within the derrick which can be operated from the same compressor plant that was employed to produce the well on gas lift. By means of this pumping head, the rig front, engine and housing can be ommitted.

[1]New Type Equipment Uses Compressed Air or Gas to Supply Energy for Pumping Wells; The Oil and Gas Journal, October 13, p. 10.

Benedum and Trees Party Touring Texas Oil Fields

FORT WORTH, Tex., Nov. 28.—Confidence that with the resumption of normal business, the oil industry would again be taxed to the limit to supply the demand, was expressed by M. L. Benedum, Pittsburgh, Pa., who with J. C. Trees headed a party visiting Texas properties.

"The present oil pools won't last always, and with normal business in this country there will be a tremendous need for motor fuel," Mr. Benedum declared.

Others of the party, traveling in three special cars, included officers, directors and stockholders of the Plymouth Oil Co. and its subsidiary, Big Lake, principal owner of the Big Lake Pool in Reagan County.

The party included: H. P. Davenport of Charleston, W. Va., director in Plymouth; W. S. Hallanan of Charleston, president of Plymouth; Joseph Guffey of Pittsburgh; J. G. Farquhar of Pittsburgh, president of Big Lake; T. R. Cowell of Pittsburgh, director; D. D. Johnson of Pittsburgh, attorney; A. F. Halliday of Pittsburgh, vice president and general manager of the Benedum & Trees Oil Co.; W. B. Gamble of Pittsburgh, banker; J. R. Munce of Shreveport, vice president Arkansas Natural Gas Corp.; F. W. Minor, Pittsburgh; A. R. Budd, director in Plymouth and Big Lake; W. M. Henderson, director in Big Lake and Plymouth; Freeman Smith and Prescott Smith of New York; Frank Andrews; J. C. Adams of Tulsa, attorney, and Charles E. Bryer, vice president and general manager of Big Lake.

Commission Holds East Texas to 325,000 Bbls. on Bottom Hole Pressure—Acreage Basis

AUSTIN, Tex., Nov. 29.—At the first hearing held before the Texas Railroad Commission since the new conservation law has gone into effect testimony was presented by E. O. Buck, petroleum engineer for the commission, advocating a new plan for basing daily allowable for the East Texas Field upon allotment per well and bottom hole pressure of the wells in the different parts of the field.

This new method as proposed by Mr. Buck was approved and adopted by the Texas Railroad Commission on Tuesday morning, November 29, and at the same time the flat allowable per well was reduced from 40 to 37 bbls. daily. This new rate is to be effective until December 10 by which time it is hoped the necessary data required to put the new proration plan into effect will be assembled.

There are now more than 9,000 wells in this field and it is estimated that the productive area is 114,000 acres. The top allowable has been fixed for the present at 325,000 bbls. per day from the field in place of the present 335,000 bbls.

Under the new plan proposed by Mr. Buck the daily production per well would be distributed upon the basis of two-thirds of the allowable on a well basis and one-third on a formula taking into account acreage and bottom hole pressure, the quantity of oil to be based on a total daily output of 325,000 bbls. The field would be divided into zones determined by the relative bottom hole pressures and a larger allowable would be permitted to wells in the western third or half of the field because that section of the pool is nearest the water zone and will go to water sooner than wells in the central or eastern areas.

Contemplates Zoning

This plan contemplates the zoning of the field, starting with a bottom hole pressure of 1,000 pounds and increasing 100 pounds per zone. The highest pressure is now 1,490 pounds. A larger potential is had in the wells with the higher bottom hole pressures. Under this plan the well allowable would vary from 26 to 44 bbls. depending upon the acreage and pressure.

This plan is predicated upon data secured from a survey of the field during which bottom hole pressures from all sections were secured. These data show that where the bottom hole pressure is higher the wells will produce the greater amount of oil than in sections of the field where pressures are incapable of securing high rates of flow.

The formula proposed by Mr. Buck is approximately as follows:

Two-thirds of the daily allowable to the East Texas Field is divided by the number of wells producing. The other one-third is divided by the acreage in the field. This second factor is multiplied by zone bottom hole pressure divided by the average pressure for the field. This third factor is multiplied by the number of acres assigned to the well and will give the barrels per day allowable based upon acreage and bottom hole pressure.

As an example the present daily allowable for the field is 325,000 bbls. Two-thirds of this amount is 216,667 bbls. divided by the total number of wells, 9,000, gives 24 bbls. per well based upon allowable.

One-third of the daily allowable is 108,333 bbls. Divided by the total acreage, 114,000 acres, is .9502 bbls. The average pressure for the field is now estimated at 1,390 pounds. If the pressure at the well is 1,000 pounds, this 1,000 is divided by 1,390, giving .72 approximately; .95 times .72 gives .684 and this is multiplied by the number of acres surrounding the well. If this is 20 acres the allowable will be 13.68 bbls. added to 24 bbls. will make the total well allowable 37.68 bbls. daily.

By way of illustrating, Mr. Buck computed these allowables: A well or a tract of 12.7 acres with 1,500 pounds bottom hole pressure would be permitted to produce 38 bbls. of oil daily; a single well on a 20-acre tract with 1,000 pounds pressure would be allotted 38 bbls.; a well of 1,500 pounds pressure on 20 acres would be permitted to take out 45.6 bbls., and nine wells on a 200-acre tract with 1,380 pounds of pressure to each well would have a combined production allowable of 340.2 bbls. daily, or 37.8 bbls. per well.

Mr. Buck gave the original average bottom hole pressure as 1,620 pounds. He said that in 67.2 per cent of the field the pressure is now 1,390 pounds and below that figure in 32.8 per cent of the area. He testified that in the western part the pressure was 1,600 pounds and over, and that it had dropped to as low as 800 pounds in the eastern section.

Under this plan the thickness of the sand is not considered. It is maintained that the per well allowable was a great improvement over old conditions, as the pressure has been built up in some places, but Mr. Buck added that the new plan is better than the present well basis and is based upon data secured from actual field conditions.

In adopting a plan for prorating an oil field by a formula considering bottom hole pressure and acreage surrounding a well the Texas Railroad Commission is making a notable forward step. This plan gives consideration to available energy in the reservoir and will serve to distribute this energy in an equitable manner as well as the oil and gas.

While there are many arguments that may be set up against this new plan its operation will be watched with much interest by the petroleum industry and it is felt that it will serve to restrict rate of production in a very satisfactory manner.

If there is excessive withdrawal of oil from any group of wells it will be followed by a drop in bottom hole pressure immediately around those wells. This lower well pressure as compared with the average bottom hole pressure for the zone will tend to reduce the allowable for the wells overproduced and in this way bring about adjustment.

It is proposed to keep constant check upon well conditions in all zones in the field and from time to time to revise allowables by setting up new average zone bottom hole pressure figures.

Views Presented

Major J. R. Parten, president of the Independent Petroleum Association, advocated a plan of East Texas proration based entirely on bottom hole pressure and "no adulterations." He said that since the Federal Court decision, some acceptable method of proration must be found as it is necessary that the oil be produced in an orderly and ratable fashion. He said a bottom hole pressure basis would give the west side of the field a slight advantage.

Crate Dalton of Dallas suggested a plan based on the thickness and richness of the oil bearing sands, the field top allowable to be divided by that basis. He said a three-foot sand might be as rich as a 50-foot sand in some places and thus the richness must be considered with the thickness.

H. J. Struth, petroleum economist of Houston, gave figures to indicate the allocation of domestic crude requirements in the oil producing states at 2,015,000 bbls. daily. He gave the Texas crude demand at 805,000 bbls. daily and allocated it to the various fields as follows:

Panhandle, 47,700 bbls. daily; West Texas, 166,100; North Texas, 48,000; West Central Texas, 22,900; East Texas, 302,800; East Central Texas, 49,000; Southwest Texas, 48,500; Texas Gulf Coast, 120,000.

Texas' Allowable Set at 845,625 Bbls. Daily

AUSTIN, Tex., Nov. 29.—An allowable crude oil production of 845,625 bbls. daily was fixed by the Texas Railroad Commission today, based on the first hearing under the new market demand law. Purchasers' nominations made at that hearing were in excess of 1,000,000 bbls. daily. The new order is effective December 1. The allowables by fields are: Panhandle, 45,000 bbls.; North Texas, 56,000 bbls.; West Central Texas, 31,500 bbls.; West Texas, 157,000 bbls.; Southwest Texas, 48,950 bbls.; East Central Texas, 51,700 bbls.; East Texas, 325,000 bbls.; and Gulf Coast, 129,575 bbls.

West Texas allowable is divided among fields as follows: Yates, 65,000; Winkler, 27,000; Howard-Glasscock, 14,000; Ector, 4,000; Crane-Upton, 13,000; Reagan County, 20,000; other fields, 14,900. Southwest Texas: Darst Creek, 14,000; Salt Flat, 7,500; other fields, 27,450. East Central Texas: Van, 45,000; other fields, 6,700. Gulf Coast: Rabbs Ridge, 10,000; Conroe, 25,000; Raccoon Bend, 5,500; Sugarland, 9,000; Barbers Hill, 19,100; Goose Creek, 3,200; High Island, 7,500; Hull, 5,500; Humble, 1,125; Pettus, 3,800; Pierce Junction, 4,700; Refugio, 7,700; Spindletop, 2,700; other fields, 24,750.

Nominations for Texas Crude Oil Made by Various Companies for December

AUSTIN, Tex., Nov. 28.—The Railroad Commission of Texas announced that daily nominations of purchasers of Texas crude oil were as follows: 1,100,419 bbls. for December, 999,938 for January, 1,010,131 for February and 1,013,349 for March. December field nominations were, daily: East Texas, 375,922; Van, 53,350; Reagan, 23,000; Conroe, 25,000; Darst Creek, 24,829; Gulf Coast, 144,556; North Texas, 85,361; West Central Texas, 19,506; West Texas, 177,788; Southwest Texas, 23,015; East Central Texas, 5,265; Panhandle, 43,827.

Nominations by companies for the month of December follow:

Humble Oil & Ref. Co.	201,200
Alamo Refining Co.	4,000
Stanolind Crude Oil Pur. Co.	20,410
The Texas Company	65,300
Atlantic Oil Prod. Co.	57,200
LaSalle Petroleum Co.	370
Taylor Refining Co.	15,000
Falls Refining Co.	2,000
Beacon Oil & Ref. Co.	8,500
Wickett Refining Co.	3,000
Boardman and Ulrich	15
J. D. Meredith	3
Gladtex Refining Co.	1,000
Gratex Refining Co.	3,250
Philtex Oil Co.	15,000
Sun Oil Co.	45,834
Marathon Oil Co.	43,800
Phoenix Refining Co.	3,750
Pure Oil Co.	56,576
Southland Refining Co	300
Mid-Tex Refining Co.	350
Republic Oil Refining Co.	10,000
Simms Oil Co.	2,000
Burford Oil Co.	3,000
East Texas Oil Refining Co.	8,000
Oriental Oil Co.	2,000
Masterakot Co.	300
Taxman Refining Co.	2,700
American Petroleum Co.	1,800
Olney Oil & Ref. Co.	2,200
Panhandle Refining Co.	2,500
Rusk Refining Co.	1,500
Arrow Refining & Prod. Co.	2,000
Houston Oil Co.	500
Pilot Point Refining Co.	850
Exchange Petroleum Co.	350
Concho Refining Co.	100
Falls Refining Co.	2,000
Continental Oil Co.	11,300
Shell Petroleum Corp.	45,825
Tidal Refining Co.	28,000
Carson, M. D., Refining Co.	1,100
Mertzon Refining Co.	40
Boone Refining Co., Inc.	1,000
Magnolia Petroleum Co.	66,400
Kent Refining Co.	325
Butler Calhoun Co.	2,000
Kilgore Refining Co.	2,300
Overton Refining Co.	3,300
Stewardson Sam C.	5
Stewardson, J. L. & Sons	10
Montroy Oil Co.	300
Madden, E. B.	3
Crown Central Pet. Corp.	13,000
Texas Pacific Coal & Oil Co.	3,000
Continental Oil Co.	5,000
Haskell Oil Refining Corp.	200
Gladewater Refining Co.	2,000
Waggoner Refining Co.	5,233
Olney Oil & Ref. Co.	2,200
Southern Oil Refining Co.	7,500
Stanolind Oil & Gas Co.	9,870
Empire Oil & Ref. Co.	15,000
Pasotex Pipe Line Co.	2,725
Yount Lee Oil Co.	25,904
Reagan County Purchasing Co.	24,350
Texon Oil & Land Co.	1,000
British American Oil Prod. Co.	8,000
Sinclair Prairie Oil Mar. Co.	38,000
Arkansas Fuel Oil Co.	10,600
Gulf Production Co.	69,565
Gulf Pipe Line Co.	24,845
Octane Oil Refining Co.	1,200

Howard County Refining Co. made no nominations for December, but made a nomination of 1,000 bbls. for the remainder of the periods.

WILL CONSIDER OIL SHOW

A special meeting of directors of the International Petroleum Exposition has been called by W. G. Skelly, president, for December 3 at the Tulsa Club, Tulsa, to consider the advisability of holding an oil show during 1933.

New Developments Widen the Field for Treating Lubricating Oils With Sulphur Dioxide

By O. P. COTTRELL
Edeleanu Co., Ltd.*

The action of sulphur dioxide on petroleum hydrocarbons is that of a solvent, and is of a physical nature. There is no chemical reaction during the treatment; and, therefore, hydrocarbon groups can be separated into two portions without changing their original characteristics. The selective solvent effect of sulphur dioxide is different for the various groups of hydrocarbons, and is controlled by the temperature at which the treatment is made. In the treatment of kerosenes, which is generally made at 14° F., the aromatic, unsaturated and sulphur compounds are separated from the paraffin and naphthene hydrocarbons. Aromatic and unsaturated hydrocarbons are soluble in sulphur dioxide at all temperatures; whereas naphthenes are only slightly soluble, and the paraffin hydrocarbons are practically insoluble at the treating temperature.

The sulphur dioxide and distillate are mixed at low temperature—generally 14° F. for naphtha, kerosenes and low-boiling hydrocarbons, and 25° to 32° F. for lubricating distillates. Sulphur dioxide is miscible with distillates up to a certain saturation; then separation occurs. The lower layer contains chiefly aromatic, unsaturated sulphur compounds, etc.; whereas the upper layer contains chiefly paraffins and naphthenes. The lower layer, which contains the major part of the solvent, is drawn off and the solvent recovered—leaving behind what is known as "Edeleanu extract". The upper layer, after removal of the solvent, represents the "Edeleanu raffinate". The process is continuous, with the solvent being circulated through the system indefinitely without any deterioration.

The refining effect of sulphur dioxide varies with the type of distillate from different crudes. For example, California distillates, having a high percentage of aromatic and unsaturated hydrocarbons, show a larger yield of extract than distillates from Pennsylvania crude, which have a small percentage of aromatic and unsaturated hydrocarbons. However, in each case the characteristics of the finished raffinates show a great improvement over the original stock; and, without much after-treatment, finished products of excellent quality are obtained. The "extracts" from the different lubricating distillates have a very low A.P.I. gravity, and are very resinous and tacky. They have a high carbon residue, and very bad viscosity-temperature characteristics. However, they have certain characteristics that make them very attractive in the chemical by-product industry. Much development work is now being conducted for utilization of these extracts.

Motors Demand Changes

During the last few years great changes have been made in the design of internal combustion engines for automobile and airplane use. Higher compression pressures, higher bearing pressures and higher speeds have necessitated certain changes in specifications of both fuels and lubricants. Necessarily, the refiner has had to meet these changes by economically improving the refining methods with crudes which were available.

The Edeleanu process has been improved to meet this demand, particularly that of producing motor oils of improved specification. Sulphur dioxide has been very satisfactory in producing high quality motor oil; but with certain distillates it was unable economically to produce finished oils with certain characteristics, especially in accordance with the new specifications. One of the new specifications is that of the viscosity index, which represents the relationship of viscosity of an oil at operating temperatures to the viscosity of an oil at starting temperatures. The primary reason for this specification is to reduce the starting torque at low temperatures, which is necessary under certain climatic conditions.

On account of the selective action of sulphur dioxide, oils having a good oxidation test have been produced; but, in order to meet viscosity index requirements on oils from certain types of crude, it was necessary to increase the solution power of sulphur dioxide. We have found that the addition of benzol to sulphur dioxide increases the solution power to the extent that the viscosity index has been improved considerably on all types of distillates. It is now possible to produce, from Mid-Continent distillates, finished oils having viscosity indices practically the same as Pennsylvania. Benzol, being miscible in all proportions to oil and sulphur dioxide, makes an ideal solvent. The percentage of benzol to sulphur dioxide depends upon the type of distillate to be treated and the results desired. It is extremely flexible, and can be changed to meet practically any refining condition. On account of the stability of benzol and the stability of sulphur dioxide, it can be used indefinitely without any loss of solvent effect. Due to the boiling points of benzol and sulphur dioxide, it can be very satisfactorily and economically recovered, and the type of the equipment is generally the same as the well-known Edeleanu plants.

The results indicate that Mid-Continent cylinder stocks can be upgraded to Pennsylvania oils regarding viscosity index and gravity; and, generally, their carbon residues lie considerably below those of oil of Pennsylvania origin. Their stability properties have proved to be better than those of conventionally refined Pennsylvania oils.

TABLE 1—PENNSYLVANIA BOTTOM CYLINDER STOCK

	Untreated stock	Sulphur dioxide raffinate	Benzol-sulphur dioxide raffinate 50:50	Benzol-sulphur raffinate 50:50 contacted with 1.5% clay
Per cent sulphur dioxide	.....	200+2×100	.....	.....
Per cent benzol-sulphur dioxide	.....	.....	200+2×100	200+2×100
Temperature of treatment	.....	32° F.	14° F.	14° F.
°A.P.I.	26.5	37.1	28.1	28.7
Saybolt viscosity at 210° F.	145	144	137	130
Viscosity-gravity constant	0.809	0.804	0.798	0.794
Flashpoint	555	560	565	565
Firepoint	635	635	635	635
Carbon residue	1.8	1.8	1.3	0.85
Color, N.P.A.	.....	.....	.....	7
Per cent raffinate, yield by volume	.....	97.6	88.5	
Per cent extract, yield by volume	.....	2.4	11.5	
Specific gravity of extract at 60° F.	.....	1.057	0.971 (14.2° A.P.I.)	

TABLE 2—GULF COAST TOTAL LUBRICATING OIL DISTILLATE

	(1) Untreated stock	(2) Sulphur dioxide raffinate	(3) Benzol-sulphur dioxide raffinate 25:75
Per cent sulphur dioxide	.....	4×100	.....
Per cent benzol-sulphur dioxide	.....	.....	4×100
Temperature of treatment	.....	14° F.	14° F.
°A.P.I.	20.8	24.1	25.7
Saybolt viscosity at 100° F.	394	351	321
Saybolt viscosity at 210° F.	51	51	51
Viscosity index	33	57	73
Viscosity gravity constant	0.878	0.852	0.840
Carbon residue	0.11	.....	.....
Per cent raffinate, yield by volume	.....	81	68
Per cent extract, yield by volume	.....	19	32

Raffinates (2) and (3) were rerun in vacuum in the presence of a small amount of caustic soda. For specifications and yields of rerun oils see Tables 3 and 4.

TABLE 3—GULF COAST TOTAL LUBRICATING OIL, SULPHUR-DIOXIDE TREATED AND RERUN

	Gas oil cut	Light lubricating oil cut	Medium lubricating oil cut	Heavy lubricating oil cut
°A.P.I.	27.0	24.9	23.2	22.6
Saybolt viscosity at 100° F.	73	233	628	1,184
Saybolt viscosity at 210° F.	....	45	58.5	75
Viscosity index	.....	32	20	31
Viscosity-gravity constant	....	0.854	0.854	0.852
Carbon residue	....	0.02	0.02	0.06
Pourpoint	....	below 0	sluggish at 0	sluggish at 0
Color, N.P.A.	less than 1	1¼	1¾	2+
Sligh No.	....	15	11	7.4
Flashpoint	300	....	....	....
Firepoint	340	....	....	....
Per cent by volume of original charged	20	30	20	20

TABLE 4—GULF COAST TOTAL LUBRICATING OIL, BENZENE-SULPHUR-DIOXIDE TREATED (25:75) AND RE-RUN

	Gas oil cut	Light lubricating oil cut	Medium lubricating oil cut	Heavy lubricating oil cut
°A.P.I.	27.9	26.3	24.4	24.2
Saybolt viscosity at 100° F.	73	203	635	1,019
Saybolt viscosity at 210° F.	....	44.5	60	73
Viscosity index	....	52	41	45
Viscosity-gravity constant	....	0.846	0.844	0.840
Carbon residue	....	0.01	0.02	0.05
Pourpoint	....	below 0	sluggish at 0	sluggish at 0
Color, N.P.A.	less than 1	less than 1	1¼	1¾
Sligh No.	....	8.4	4.4	3.6
Flashpoint	315	....	....	....
Firepoint	340	....	....	....
Per cent by volume of original charged	30	30	30	30

Pennsylvania Stock

Table 1 indicates that even Pennsylvania bottom cylinder stocks can be improved by sulphur dioxide, and especially by benzol-sulphur dioxide. Gravities in-

(Continued on Page 12)

TABLE 5—CALIFORNIA LUBRICATING DISTILLATES

	(a) 100 viscosity lubricating oil distillate (San Joaquin Valley crude)				(b) 80/85 viscosity lubricating oil distillate (Kettleman Hills crude)				(c) 55/60 viscosity lubricating oil distillate (Coalinga crude)		
	Untreated stock	Sulphur dioxide raffinate	Benzol-sulphur dioxide raffinate 25:75	Benzol-sulphur dioxide raffinate 25:75 plus 12 per cent clay	Untreated stock	Sulphur dioxide raffinate	Benzol-sulphur dioxide raffinate 30:70	Benzol-sulphur dioxide raffinate 30:70 plus 5 per cent clay, de-waxed	Untreated stock	Sulphur dioxide raffinate plus 7 per cent clay	Benzol-sulphur dioxide raffinate 25:75 plus 7 per cent clay
Per cent sulphur dioxide	....	4×100	....	....	....	200+2×100	....	....	....	4×100	....
Per cent benzol-sulphur dioxide	....	.....	4×100	4×100	....	.....	200+2×100	200+2×100	....	.....	4×100
Temperature of treatment	....	14° F.	14° F.	14° F.	....	60° F.	32° F.	32° F.	....	14° F.	14° F.
°A.P.I.	15.8	21.0	23.2	24.1	18.7	23.6	26.4	25.7	16.5	22.8	24.7
Saybolt viscosity											
At 100° F.	3,974	1,708	1,211	1,187	....	....	....	770	790	472	469
At 210° F.	100	82	76.5	75.5	82	68	61	72	56	53	52
Viscosity index	—91	+1	+34	+33	....	....	....	79	—57	+24	+48
Viscosity-gravity constant	0.901	0.862	0.846	0.840	0.851	0.846	0.828	0.829	0.910	0.860	0.847
Carbon residue	0.82	0.29	0.14	0.09	1.2	0.38	0.13	0.14	0.15	0.05	0.04
Flashpoint	460	....	....	465	475	....	....	430	405	....	410
Firepoint	525	....	....	525	555	....	....	555	460	....	460
Pourpoint	20	....	....	10	115	....	....	10	slug-gish at 0	slug-gish at 0	slug-gish at 0
Color, N.P.A.	....	....	....	4½	....	....	....	4	....	1¾	less than 1
Sligh No.	....	....	....	....	....	....	....	....	....	7.8	2.6
Per cent raffinate, yield by volume	....	69	51	51	....	75.0	56.0	56.0	....	65.0	48.0
Per cent extract, yield by volume	....	31	49	49	....	25.0	44.0	44.0	....	35.0	52.0

*Before A.P.I., Houston. The author's title for this paper was "Recent Developments in the Edeleanu Process."

Capacity of Eastern Pipe Line Is Doubled After Oil Flow Is Reversed From East to West

By E. H. FORTMANN
National Transit Co.

In these days when a general excess of pipe line capacity is known to exist in the eastern field, an addition or extention is quite apt to be interesting to oil men. Especially is this true when such a project is completed most economically, and in the shortest possible time.

It became necessary last fall to approximately double the capacity of the National Transit Co.'s 6-inch pipe line from Philadelphia to Colegrove, Pennsylvania, a distance of 236.77 miles, due to the increased movement of crude oil from the Atlantic Seaboard to refineries located in the western part of Pennsylvania. The pumping equipment of this line originally consisted of four steam powered stations located for east-bound pumping, to which was added one electric motor driven station when the west-bound movement of crude oil through this pipe line first started. The fact that the existing line had been devoted to east-bound pumping through a rather mountainous district, but now was to be used for west-bound shipments, also introduced many problems which had to be solved. However, calculations showed that the desired increase in capacity could be attained by the construction of six new pumping stations, and abandoning of two of the existing stations thereby approximately halving the distance between existing stations. Otherwise it meant laying a considerable amount of pipe.

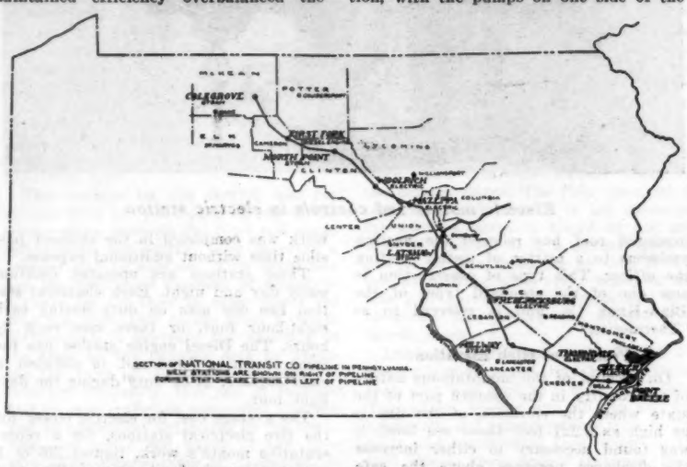
Five Electric Stations

The first plan was followed as it involved expenditure of approximately one-third of the sum required to lay the necessary amount of pipe, and because it would take eight to ten years for the cost of operating the additional stations to amortize the difference in investment. The electric power companies offered attractive power rates for five of the six stations, for which stations electric motor drive was chosen. The absence of dirt, fumes, and lessened fire hazard must also be mentioned as influencing the decision to install electrically driven stations in some rather built-up communities. Several communities actually expressed their preference for electric power.

At the sixth station, located in a rural district, favorable electric power rates were not available, and Diesel engines were installed.

In choosing the equipment for the electric motor driven stations consideration was given to reliability, maintenance, flexibility in rates of pumping, fire hazard, installation cost and power cost.

Reciprocating pumps were chosen for two reasons; first, because the savings in power cost resulting from their higher maintained efficiency overbalanced the saving in initial installation cost of centrifugals, and, second, because of the well-known flexibility of reciprocating pumps over centrifugals. As oils of widely varying gravities and viscosities were to be pumped at varying pressures, the utmost flexibility in all the equipment was of prime importance.


SECTION OF NATIONAL TRANSIT CO PIPE LINE IN PENNSYLVANIA.
NEW STATIONS ARE SHOWN ON RIGHT OF PIPE LINE.
FORMER STATIONS ARE SHOWN ON LEFT OF PIPE LINE

In selecting the electrical equipment consideration was given to different methods of obtaining the speed variation necessary for the desired flexibility in pumping rates, such as slip ring and brush shifting motor drives. After weighing the advantages to be had with various arrangements two reciprocating pumping units were installed at each electric station, one of which is driven by an .8 leading power factor synchronous motor and the other by a two-speed squirrel cage motor. This combination enables the stations to operate at full, three quarters, and half capacity with the lowest electric power consumption and a power factor over 90 per cent for all rates of pumping.

A brick fire wall was constructed throughout the length of the building which housed all equipment at each station, with the pumps on one side of the fire wall, and office, motors, and all electric control equipment on the other. This construction at a small addition to building cost permitted the use of standard motors and control, reduced the fire hazard to a minimum, made available standard stock motors and controls for emergency repair, and saved the added cost of special vapor-proof or explosion-proof electrical equipment.

Suction Pressures Carried

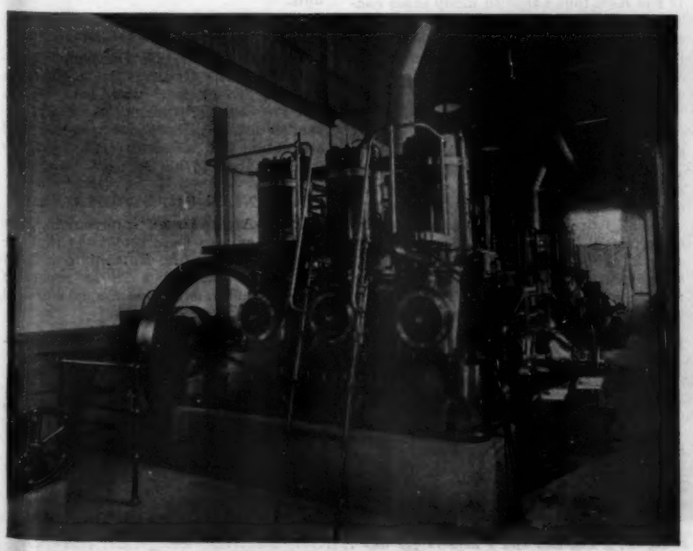
To reduce evaporation losses, and to keep power cost at a minimum, suction pressures are carried at four of the five electric motor driven stations. To steadily maintain these suction pressures at the desired amounts it is necessary to adjust very accurately the rate of pumping of each station to equal the rate at which oil is pumped to it. This requires a flexibility in pumping that cannot be obtained with constant or two-speed motor driven units, and to provide this flexibility by-pass connections with 1½-inch meters were installed to by-pass oil from the discharge side to the suction side of the pumps. The meters in the by-passes give an accurate check on the amount of oil being by-passed and this arrangement does not interfere with the customary method of checking oil by pump plunger displacement. Records show that less than 2 per cent of the total oil pumped has been by-passed back into the suction to maintain proper suction pressures, proving this to be a more economical arrangement than a variable speed motor installation. This by-pass arrangement has proved so very practical and satisfactory from every angle, in actual operation, that your attention is especially invited to it.

The 12 pumping units are of the horizontal duplex outside and packed plunger type, manufactured by the National Transit Pump & Machine Co., and, like the electrical units, are composed of standard parts always carried in stock by the manufacturer. Former experience with this type of pump had proved its excellence for this work. Much credit is due this pump manufacturer for its enterprise and co-operation in making delivery, at destination, of the 12 pipe line pumps in less than eight weeks after receipt of order.

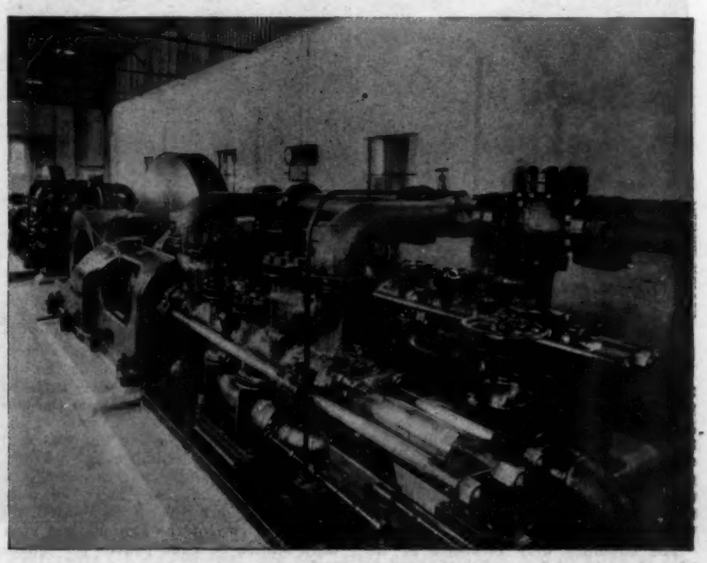
The fluid ends are of the "Texas type" made of cast steel having the valve pots cast integral with their respective fluid cylinders, a design which reduces the clearance and makes the fluid passages short and direct affording the maximum in volumetric efficiency.

The inner and outer chambers are interchangeable as are also the valve pot covers, valves, valve seats, plungers, plunger crossheads, plunger side rods and the piping manifolds. Easy access to all working parts is a prominent characteristic of this design.

The power end of each pump is built upon two heavy frames of the side crank



Interior view of the Diesel engine driven station



Fluid end view of Transit 5"x18" horizontal duplex, Texas type pumps

rolling mill type arranged for end drive and equipped with herringbone main gearing and helical secondary gearing.

Reduction Gearing

The motor driven pumps have double reduction gearing and their primary or first reduction is identical with or the same ratio as that of the single reduction gearing of the oil engine driven pumps. This makes the main gears and main pinions in all stations alike and interchangeable as are also the secondary gears and pinions in all the electric motor driven stations.

The end drive gear base is also identical in all pumping units but where the oil engines are used the secondary gearing is omitted making it possible to convert from oil engine drive to motor drive or vice versa in any of the stations, at minimum cost.

The above-mentioned interchangeability in both the fluid end and the power end of the pumps reduced the list of necessary spare parts to a minimum.

All electric equipment was furnished by the General Electric Co. Three stations are each equipped with synchronous motors rated type T8, 125 horsepower, 720 r.p.m., 2,200 volts, 3 phase, 60 cycle, with direct connected exciters, and squirrel cage motors rated 125-horsepower, 720 r.p.m., or 62½ horsepower, 360 r.p.m., 2,200 volt, 3 phase, 60 cycle, 2 speed, and the remaining two stations are equipped with 100 horsepower synchronous motors and 100/50 horsepower, 2 speed, squirrel cage motors.

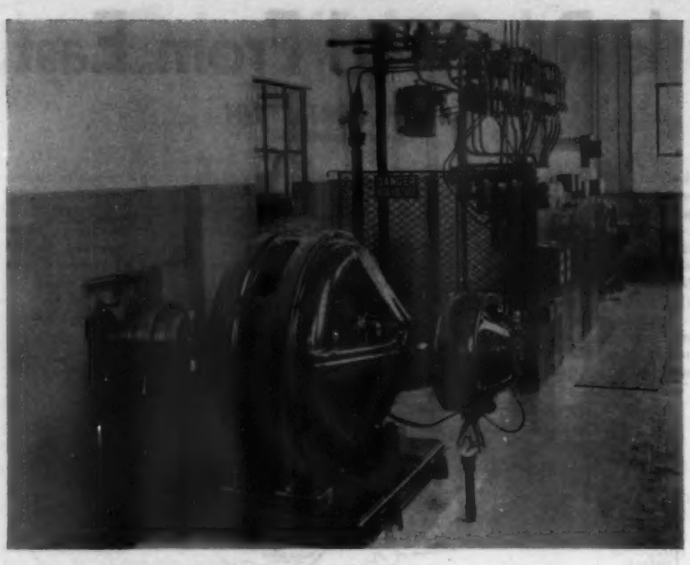
The 125/62.5 and the 100/50 horsepower, 2 speed squirrel cage motors were built in frame sizes having duplicate mechanical dimensions.

The pole changing breakers for the two speed motors are equipped with auxiliary switches for interlocking, to insure going through the starting sequence when changing speeds of the squirrel cage motors.

Bed plates for each of the motors (synchronous and squirrel cage) were designed and drilled for mounting any one of the other ratings used. Thus only one spare motor is necessary. Since the spare motor will be in use only during emergencies, a squirrel cage single speed motor and a dead front compensator are held ready for shipment to any station. The design of the bed plates permits replacement of either of the 10 motors without further drilling.

The sixth station at which favorable power rates were not available is equipped with two horizontal duplex plunger type pumps similar to pumps at the electric powered stations each driven by a 210 horsepower Fairbanks-Morse Vertical Diesel oil engine.

The buildings were furnished by the Blaw-Knox Co. and are of their standard construction except that the walls are built up of an outer and inner galvanized steel sheet with a 1-inch thick layer of insulating material between them. Although some of the buildings are located in the northwestern part of Pennsylvania, this wall insulation combined with the insulated roof has reduced the heating problems to a matter of merely heating the offices. This type of construction is now one of the standard types of the Blaw-Knox Co. and is referred to as "Thermotite."



Electric motors and controls in electric station

Problem of High Elevation

On account of the mountainous nature of the country in the western part of the state where the elevation of the line is as high as 2,221 feet above sea level, it was found necessary to either increase the discharge pressure above the safe limit of the existing pipe line or to loop the existing line, to obtain the desired capacity at three pumping stations. The first method was found to be more economical and the old pipe line on the discharge side of the station was replaced with the new heavier pipe from the station to a point on the mountain side where the pressure on the line was well within the allowable limit of the old pipe. Wtih this arrangement the discharge pressure limit has been increased from 900 pounds per square inch to 1,000 pounds at two of the stations and at a third station to 1,100 pounds per square inch.

Due to the co-operation of all manufacturers from whom equipment was purchased, and the electric power companies, the pumping stations were put into operation two and one-half months after the construction was authorized. While no attempt was made to make a record, the work was completed in the shortest possible time without additional expense.

These stations are operated continuously day and night. Each electrical station has one man on duty during each eight-hour tour, or three men each 24 hours. The Diesel engine station has the same operating force and, in addition, a chief engineer is on duty during the daylight tour.

The average cost for electric power for the five electrical stations, for a representative month's work, figures .36 of 1 cent per barrel of oil pumped. The cost of fuel and lubricating oil for the Diesel engine powered station for the same period is .10 of 1 cent per barrel of oil pumped.

After six months of operation at full capacity, the entire installation is regarded as being very satisfactory by all concerned, and it is felt the confidence placed in the various manufacturers of the equipment has been fully justified.

Power end view of the Transit horizontal duplex Texas type pumps

New Developments Widen Field for Treating Oils

(Continued from Page 10)

crease considerably, and viscosity-gravity constant and carbon residues are reduced. It has been found that in many cases considerably less clay is required to obtain a certain color in the finished product. In fact, in one case only 50 per cent of the amount necessary for the stock were required.

Tables 2 and 5 give some results as obtained from Gulf Coast and California stocks. Both groups can be considered together because of their similar properties and behavior although they show differences in some characteristics. Both groups of crudes are mainly of naphthene-base character although some of them contain considerable amounts of wax—especially California crudes. On account of their naphthene-base constitution, they have low viscosity indices. At the same time, they are noted for their low carbon-formation properties and for their high film stability. As already mentioned above, the viscosity-temperature relationship of an oil applies only to lubrication performances with great changes in temperature conditions. Stability of a motor oil against breakdown in actual service is an important requisite, and is being obtained from naphthene crudes with sulphur dioxide alone. Finished oils are produced from distillates of both crude groups by sulphur dioxide and clay, or by sulphur-dioxide extraction followed by re-running.

Examples in Tables 2 and 5 give a comparison between the effect of sulphur dioxide and benzol-sulphur dioxide, and it may be seen that both groups of distillates can be considerably improved by benzol-sulphur dioxide if oils of exceptionally high quality are desired. As in the case of Mid-Continent oils, relatively the same improvement in gravity, carbon residue, and viscosity index or viscosity-gravity constant can be noted. Sligh oxidation tests of benzol-sulphur-dioxide raffinates are only one-half as high as those of sulphur dioxide raffinates when both raffinates are finished with the same amount of clay. With other oxidation tests frequently differences much larger than 1:2 have been found.

Tables 3 and 4 give comparative data on corresponding cuts from re-run sulphur-dioxide versus benzol-sulphur-dioxide raffinates. The marked improvement in color and stability of benzol-sulphur-dioxide treated oils should be noted, as these produced without use of acid or clay.

It is interesting to note that the treatment of distillates with sulphur dioxide or benzol-sulphur dioxide results in the separation of aromatic and unsaturated hydrocarbons, and separates only a small portion of the naphthene hydrocarbons at the treating temperature. Aside from viscosity index, which is desirable in territories where low temperatures are experienced, the coastal and California distillates yield a finished oil with very satisfactory characteristics.

The flexibility of the Edeleanu process has greatly increased with this new development, and permits the use of the process for the refining of hydrocarbons ranging from gasoline up to cylinder stocks in the same plant. The design of the unit is such that the proportion of benzol to sulphur dioxide can be altered to meet treating requirements, and the plant can be used for the treatment of distillates with sulphur dioxide alone. The quantity of solvent remains the same, and benzol replaces only an equal amount of sulphur dioxide. On account of this fact, the operating costs are generally those of regular Edeleanu plant operation.

Based on many years of operation, Table 6 shows the estimated operating cost per barrel of distillate charged to the unit.

TABLE 6—ESTIMATED PROCESSING COSTS FOR A 1,000-BBL. BENZOL-SULPHUR-DIOXIDE PLANT

Design: Combination benzol-sulphur dioxide and straight sulphur-dioxide plant.
Figures based on cylinder-stock treatment with 200 vol. per cent. 50:50 mixture.

Item—	Amount required per barrel of distillate	Costs per unit	Costs per barrel of distillate (cents)
1. Power	6.0 kwh.	1 cent per kwh.	6.0
2. Live steam, 135-lb. gauge	205 lbs.	35 cents per 1,000 lbs.	7.2
3. Water	1,160 gals.	0.6 cent per 1,000 gals.	0.70
4. Sulphur dioxide	0.5 lb.	3.3 cents per lb.	1.65
5. Benzol	0.3 lb.	20 cents per gal.	0.8
			16.35
6. Labor: 1 foreman and 9 helpers per day			3.3
7. Maintenance and repairs (approximately $7,500 per year)			2.0
Total			21.65

W. H. DAWSON DIES

Funeral for W. H. Dawson, superintendent of the Gilmer Oil Co., Healdton district, Oklahoma, was held at St. Mary's Catholic Church, Ardmore, November 22. Mr. Dawson was a victim of an automobile accident while en route from Duncan to his home.

RUMANIAN OIL STABILIZATION

Anglo-American oil interests in Paris received advices from Bucharest that representatives of the Rumanian industry will arrive November 28 to report on progress of preparations for execution of the oil stabilization plan.

Unique Features in Steel Island Constructed for Drilling in the Pacific 2,700 Feet From Shore

By L. P. STOCKMAN

The Indian Petroleum Corp., which recently started a new well on the Shudde permit in the western end of the Rincon anticline, has introduced an innovation in California tideland development by erecting a single well head fabricated of structural steel, instead of pursuing the usual method of constructing a pier at right angles from the mainland. This new well is 2,700 feet from the shore and 1,800 feet from the end of the nearest pier. Without approach to land it is in fact an island of structural steel. Heretofore all of the well locations have been reached with approach wharves. The derrick floor on the Indian Petroleum's tideland project are from 25 to 30 feet above high water. The derrick is 122 feet in height and the water 40 feet deep.

Drilling for oil in the Pacific Ocean involves peculiar problems not heretofore encountered. These engineering problems have been solved, however, with the result that successful tideland development has been prosecuted at Elwood and Rincon. Previous to the construction of the foundations and surrounding wharf on the Indian Petroleum's project, substructures, designed to prevent overturning, resist wind pressure, wave action and, without guys, have been constructed on several occasions. They were constructed to prevent salt water from getting into the well and at the same time provide means so that waste water, mud and oil would be prevented from polluting the ocean. The conventional method of construction was to build four corner foundation piers 7 feet in diameter, sunk to a solid foundation and filled with concrete. Centrally disposed within the corner piers there was a fifth pier 14 feet in diameter. The central pier has many functions. It carries the rotary table, encloses a well, acts as a receiver for all mud fluid washed from the derrick floor, thereby keeping the ocean free from pollution, and further serves as the stabilizer for the four corner piers. There are limitations to this type of design. First and fundamentally the item of cost must be considered. In one well at Elwood, the cost of constructing 300 feet of approach wharf along with the rig foundation in 37 feet of water was something over $120,000.

Property Owned by State

Tideland property in California is owned by the state and drilling permits are consequently issued by the State of California with the provision that certain drilling requirements must be met within specified times. Since the Indian Petroleum's permit, the Shudde, required either an approach pier 1,800 feet long if one starting point was taken, and 2,700 feet if an alternative were selected, it was felt that there was no justification for the expenditure of $300,000 for the work. This estimate was based on using the conventional type of construction. Because of the excessive cost involved in the construction of an approach pier, it was decided to construct a steel island sufficiently strong to provide a foundation which would withstand the tremendous wave and wind action and high eccentric loads, and which at the same time would persent a minimum of surface to the wave action.

Plan of Construction

In general, the Indian Petroleum's island structure consists of a foundation made up of structural members formed into piers and a central structural member to give a five-point pier of great rigidity and strength. More specifically, it is constructed of a plurality of vertical H-beams driven into shale to refusal and cross connected by structural members to form four compound columns which act as piers. These piers are interconnected by other structural members which act as tie rods. Centrally disposed of these four piers is a ring of vertical H columns all tied together in a ring and cross braced to the corner piers. The central ring, thus constructed, has as one of its functions to act as a vertical compound column. Centrally disposed of this ring of H columns is a tank suspended and carried by the central ring. This tank has a double function in as much as it acts as a sump to collect drilling fluid and oil and also acts as the cellar of the well. A caisson, in which a conductor pipe is cemented both above and below water, passes centrally through this tank. The drill pipe passes through this conductor pipe.

The footings for the derrick and the derrick floor are positioned on top of the corner piers. Beneath the floor and registering with the central tank there is a scupper pan or subfloor. This drain pan has the additional function of acting as a guard for the floor in cases where the seas run high. Due to the great strength of this pan it prevents the uplifting of the floor by the running seas by breaking the force of the waves. In order to function efficiently, this pan or subfloor had to have sufficient structural strength and be adequately supported by the structure and cover the whole of the floor area. The rotary table is supported on certain of the H beams of the central ring. The construction above water level is welded and below water line clamped and bolted.

Large Steel Towers Used

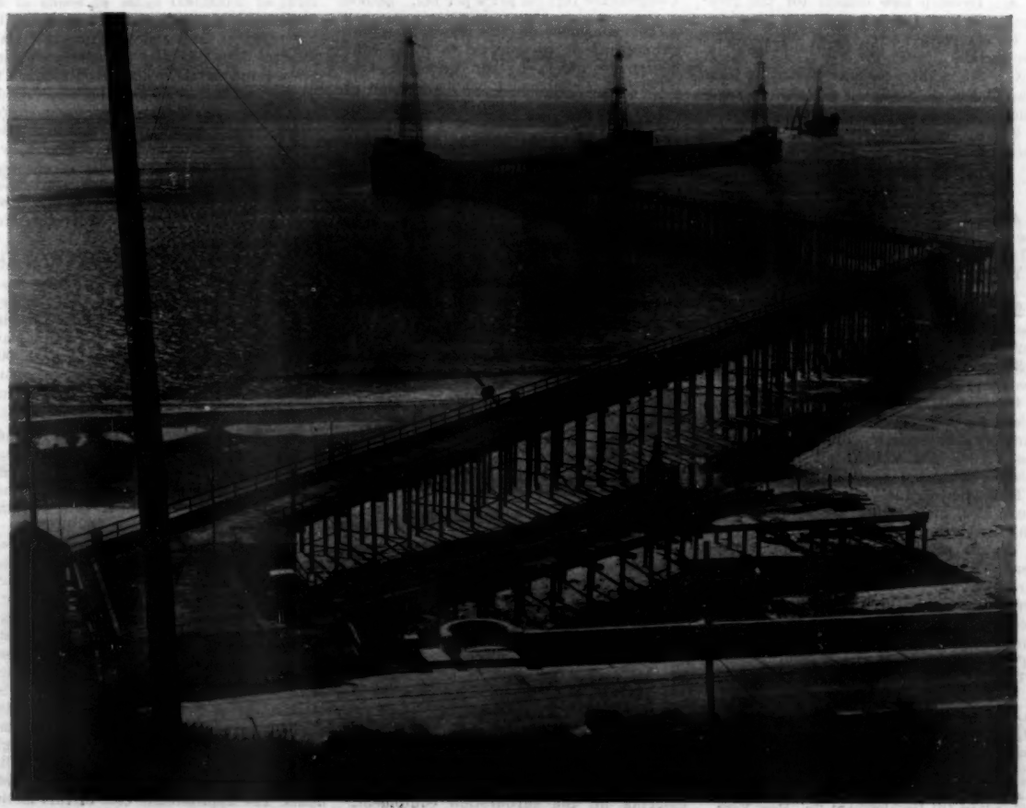
The initial work on the steel island consisted of constructing four towers of structural steel. The corner legs were 60 feet long, the steel weighed 30 pounds to the foot and the legs were spaced 20 feet apart. The resulting structure became 20 feet square. These towers were placed on the deck of the derrick barge, towed to sea and landed at the edge of the wharf to be built. Placing four of these side by side made an area almost 45 feet square. Upon this skeleton falsework was landed caps and in turn the skids of a pile driver, the ladder braces, gins, and a hoisting engine. There was sufficient room on the platform for a water tank, fuel drums, a compressor and the necessary small tools. The tanks were filled from the storage tanks on the derrick barge. The first essential in open roadstead work is to lay moorings, for when a barge is towed to sea and work is expected of it, a method must be had to tie the thing up so that it will not be drifting with every whim of the tide and current. These moorings were obviously laid before the towers were towed to sea.

During construction of the Indian Petroleum's steel island, the General Petroleum pier was used as a base of supplies. The piling, lumber and all the oil well equipment and appurtenances were hauled to it and transported from there to the well site in their proper sequence. Driving the piling for the surrounding wharf to the rig foundation had no unusual features, other than the hazards of loading and unloading 66-foot piling, weighing almost two tons each, in a pitching, surging sea. In constructing the foundation for the rig, most unusual methods were used. The substructure for the marine oil well derrick is completely symmetrical and is substantially identical on all four sides. The first conception of constructing this symmetrical structure was to have the piling spotted with an instrument and driven. However, the ocean floor was of shale with an overburden of sand of varying depths. This lack of uniformity naturally migitated against accurate spotting of piles and there was no guarantee that the pile would go exactly where it was driven. This contingency was to be overcome in the bracing and tieing of this construction into an integral one, by means of having a diver make underwater measurements. He was provided with a steel rod and hack saw and as each member was measured the rod would be hacked, sent aloft, and the operation repeated until each clamp was fabricated. Any inequalities of length were overcome by means of turnbuckles.

Steel Template Pattern

Due to the possibility that heavy weather might develop at any time, the engineers decided that something more definite than the above method had to be developed. They accordingly constructed a structural template of the exact size of the rig foundation. As before described, the rig piers are composed of four vertical H columns. The template provided a

(Continued on Page 38)



View from shore showing General Petroleum Co.'s 1,700-foot "zig zag" steel approach pier and location of Indian Petroleum's steel island located 1,800 feet beyond outer edge of pier

Several Developments for Increasing Utilization of Fuel Oil Fractions of Refinery Output

By R. P. RUSSELL[1] and W. V. HANKS[2]

Profitable disposition of the heavy residuum from petroleum has for some time been a problem of importance to the refiner. While there has been a progressive increase in the yields of gasoline obtained from crudes, with attendant reduction in gas and fuel oil, as shown in Table 1, stocks of gas and fuel oil still remain high.

TABLE 2—YIELDS OF GASOLINE AND FUEL OIL
(Based on data from Table 1)

Year	Bbls. of gasoline Ratio bbls. of crude run	Bbls. of gas and fuel oil Ratio bbls. of crude run	Bbls. of gas and fuel oil bbls. of gasoline
1928	0.41	0.46	1.13
1929	0.44	0.43	0.98
1930	0.46	0.40	0.86
1931	0.49	0.37	0.76
*1932	0.48	0.36	0.75

*Figures for eight months.

Table 2 shows how yields of fuel oil have been decreased materially (from 46 per cent to 37 per cent) and gasoline yields increased (from 41 per cent to 49 per cent), during recent years. This is in part due to use of lighter crudes and in part to the increased cracking capacity in this country. However, further increases in gasoline yield (with decreased fuel oil production) and added uses for the heavier products continue to be of interest to the petroleum industry. Several methods for increasing consumption, or for decreasing production of these heavy oil fractions, have been proposed; and this paper attempts to review some of the more promising schemes.

In general, methods of handling the problem fall in one of three main groups.

A. Develop new outlets for the present grades of fuel oil.

B. Convert present fuel oil to other products.

C. So modify refinery operation that less fuel oil is produced per unit of gasoline.

Several schemes are reviewed under each of these heads.

A. Increase Outlets for Present Types of Fuel Oil

Among the suggestions for increasing the outlets for the present types of fuel oil have been:

1. Replacement of coal with fuel oil in some of the large power plants, etc.
2. Substitute fuel oil for gas oil for use by gas companies in making carbureted water gas.
3. Use residuums for surfacing of secondary roads.
4. Stimulate domestic fuel oil burner sales, to increase demand for domestic burning oils, probably by converting the heavy fuel into a light oil suitable for this service.

The sale of fuel oil to large power companies, etc., which are now burning coal, involves an appreciable expenditure to change over from coal to oil equipment. The power companies for the most part are unwilling to make this additional investment unless they safeguard themselves by securing long-term contracts for fuel oil at prices approximating those existing at the present time.

Table 3 shows the approximate costs of converting some fairly large power plants from coal to oil.

Quite a variation between plants is evident because of the different adaptability of each to the use of oil and to local conditions, such as space for storage, pipe lines, etc. The price of oil to compete with coal of a given price may be estimated as in the following example:

Assume a plant now burning 100,000 tons of coal per year can be converted to oil at a cost of 25 cents per barrel per year. Net cost of coal at the boilers is $4 per ton, of a heating value such that 4.5 bbls. of fuel oil are required per ton of coal. Cost of changing to oil will be written off in three years. The cost of oil to compete with this coal is estimated thus:

Cost of oil per barrel = coal at $4 per ton	= $0.889
Less yearly amortization of equipment = ⅓ × 0.25	= 0.083
Less overhead charges on investment at 12%	= 0.003
Competitive fuel oil price per bbl.	$0.803

The consumer in this case, therefore, cannot afford to convert to oil-burning equipment unless he can be assured of oil at under 80 cents per barrel for at least a three-year period. From the point of view of the consumer, it is evident that he must so protect his additional investment. The oil companies, however, would be placed at an appreciable disadvantage by such contracts, should the former fuel oil market be restored by a return to better business conditions. Apparently, additional outlets for fuel oil are available in this general field to any refiner who elects to tie himself up with long-term contracts.

Sale of fuel oil to gas companies for carbureting purposes might conceivably result in replacing all of the gas oil now used for carburetion. The present demand for carbureting materials amounts to about 16,000,000 bbls. of gas oil per year. Some gas companies have been operating successfully on a 16 to 18 gravity fuel oil with a B.t.u. available of about 104,000 per gallon and a Conradson carbon of 10 per cent or under. Such a stock can probably be cracked to gasoline and heavy fuel oil more profitably than it can be sold to the gas companies. The difficulty of so cracking this oil lies in the fact the market for heavy fuel oils is such that sale of these oils is comparatively difficult, and it becomes necessary to dispose of the 16 gravity material—which is fairly salable—rather than accumulate heavier stocks which are not.

The gas maker runs into difficulties when attempting to use heavier oils and tars for carburetion, since heavier oils tend to decompose to coke—not only clogging up the carburetion equipment, but reducing the net amount of oil which is introduced into the gas to increase its heating value. For example, a 17 gravity fuel oil of 145,000-147,000 B.t.u. per gallon heating value may have a carbureting value of 70 per cent of its heating value, or 102,000 B.t.u. per gallon. An 8 gravity tar of 156,000 B.t.u. heating value will probably have a carburetion value of only about 45 per cent of its heating value, or about 70,000 B.t.u. per gallon. The difference represents soot and tar deposited in the carburetion checkers and in mains. Under these conditions it is evident that the gas manufacturer cannot afford to pay fuel oil prices for 8 gravity tar if he can obtain 16 gravity oil—which greatly simplifies operation—at anywhere near existing market price differentials. This outlet for light fuel oils will probably be especially encouraged only by producers having difficulty in disposing of heavier oils.

There exists in the United States a total of 3,000,000 miles of roads of all varieties. Of these, only 120,000 miles are rated as first class highways. An additional 700,000 miles are classed as improved and partially improved roads. The balance consists of clay and sand roads, representing extremely poor surface for automobile travel. With the increased volume of traffic now on roads, a real problem confronts the highway engineer to create satisfactory secondary roads at a reasonable cost. In reviewing the problem, the highway engineers have pointed out:

a. That $20,000 to $30,000 per mile for primary roads cannot form the basis for all necessary roads in the country, because of the enormous expenditure involved. For instance, the cost of so paving 20 per cent of the present 3,000,000 miles of road would amount to about $18,000,000,000, or enough money to run the national government for five years.

b. That satisfactory secondary roads can be built up by a so-called "stage construction" in which the surfacing material is applied periodically as a normal part of the maintenance. In this way the surface is gradually built up to form a first class highway. For instance, a well maintained gravel road will carry comfortably quite a large volume of traffic; as the traffic increases, the maintenance cost for dragging and filling this road becomes greater. When maintenance costs approach $700 to $800 per mile per year, it should be economical to surface with petroleum residuums, which can be maintained at about this cost—thus giving a superior road, and at the same time laying the foundation for a high class highway which ultimately results from successive applications of the residuums. The approximate cost of this method of construction, as compared to the cost of a hard surfaced road, is illustrated in Table 4.

TABLE 1—PRODUCTION OF GASOLINE AND FUEL OIL IN THE UNITED STATES
(Data from U. S. Bureau of Mines Statistics)
(Thousands of barrels)

Year	Gasoline average daily production	Gas and fuel oil average daily production	Crude runs average daily run	Gasoline stocks December 31	Gas and fuel oil stocks December 31
1928	1,033	1,170	2,516	33,066	122,845
1929	1,193	1,173	2,706	43,261	146,831
1930	1,184	1,020	2,541	40,541	140,428
1931	1,182	923	2,451	40,209	135,856
*1932	1,079	818	2,236	†36,705	†128,695

*Figures for eight months. †August 31, 1932.

TABLE 3—COST OF CONVERTING POWER PLANTS FROM COAL TO OIL-BURNING EQUIPMENT

Plant No.—	1	2	3
Coal consumption, tons per year	1,200,000	150,000	30,000
Estimated oil requirements, barrels per year	5,350,000	722,000	119,400
Cost of conversion, dollars per barrel per year	0.10	0.47	0.22
Handling cost of oil, cents per barrel	...	1.2	4

TABLE 4—COMPARATIVE COSTS "STAGE CONSTRUCTION" WITH HARD SURFACED ROADS

Stage construction costs:	
Average initial cost, per mile	$2,250.00
Interest at 4½ per cent, per year	112.50
Maintenance, about, per year	600.00
Total yearly cost	$712.50
Hard surfaced road:	
Average initial cost (20-yr. life)	$22,000
Depreciation per year	1,100
Interest at 4½ per cent	990
Maintenance	300
Total yearly cost	$2,390

While the above figures represent only rough averages, and will vary greatly in individual sections of the country, it is evident that the cost of building up and maintaining a road by stage construction is approximately one-third the average cost of a hard surfaced highway, and will ultimately give a road practically as satisfactory where the volume of traffic is not too heavy.

Highway engineers, experimenting with various tar products for this "stage construction" have found that liquid asphalts (petroleum residues) of approximately 1,000 to 1,600 seconds Furol (at 122° F.) can be mixed with gravel in a road mixer, and applied to the roads to form the initial coating at a cost of around $2,250 per mile. Lower viscosity oil (200 to 300 Furol) can be used by pouring directly on the gravel road and mixing in by scrapers and rollers. The following rough estimate gives some idea of the demand for heavy oils which might be created by a campaign for this type of road construction. The present so-called secondary roads (700,000 miles) in general contain enough gravel at present to allow premixing with liquid asphalt in place to form a coating of 2 to 3 inches in depth. Estimates show that existing equipment is available to so coat about 75,000 miles of this gravel road per season. In addition, equipment for premixing tar with gravel, and applying this premixed coating, should pave about 25,000 additional miles per season. An average of 15,000 U. S. gallons of liquid asphalt is required per mile; thus a market for 1,500,000,000 gallons, or about 35,000,000 bbls. of tar, would be required per year. Various cracking coil residuums are found to be directly applicable to this work; further, it is possible to use an even heavier product for the premixed coating than is now generally available. Continued demand for these products is fairly well assured because:

a. Periodic addition of liquid asphalt to all of these roads will be required.

b. The number of third grade roads which are being converted to so-called "semi-improved" is increasing.

In so converting a dirt road to an all-year-round road, it will probably be found desirable to spend somewhat less for gravel coating and to apply the money so saved to purchase of tar—during the first construction period. The average dirt road requires about 1,600 cubic yards of gravel per mile when applying gravel alone; a satisfactory asphalted surface can be made by only 800 cubic yards per mile—the saving on gravel so realized being used to buy liquid asphalt.

The asphalt industry is now engaged in further development of this use for liquid asphalts, and it is likely that quite a market will thus be opened for these residuum products. Additional road mileage in good secondary roads also tends to increase gasoline sales; this again reacts to the advantage of the petroleum producer.

The domestic burner market represents

[1]Hydro-Engineering & Chemical Co., Elizabeth, N. J.
[2]Standard Oil Development Co., New York, N. Y.
A.P.I. annual meeting, Houston, Tex. The author's title for this paper was "Fuel Oil: Some Methods for Utilization."

now—

Volume demand for gasoline is down but quality demand is up—and going higher all the time

Better anti-knock gasoline will get the business next summer—quality and volume, too

Now is the time to get ready

Now is the time to build Dubbs cracking units if you haven't any—to build more if you have some

Then you can make the highest yield of the best gasoline from any stock at lowest cost (royalty and all)

There is never enough Dubbs cracked gasoline

Universal Oil Products Co
Chicago Illinois

Dubbs Cracking Process
Owner and Licensor

a large potential outlet for fuel oils. The average household burner consumes about 40 bbls. of oil per year. It is estimated that if the cost of an installation be reduced by proper burner developments—so that the price is comparable to that of an electric refrigerator—a potential market should exist for about 8,000,000 installations[2]. At 40 bbls. per installation per year, this would be a potential demand of 320,000,000 bbls. of burning oil per year. This is to be compared to the present consumption of approximately 27,000,000 to 30,000,000 bbls. per year.

To realize any appreciable gain from this market, some developments are necessary:

a. The price of a fuel oil burner installation must be reduced to increase the general availability.

b. The burner must be adapted to burning heavier distillates which will permit the refiner to cut deeper into the crude, thus producing less residual fuel oil; or, lacking this, the refiner must develop methods of converting present low gravity tars into satisfactory high gravity burning oils.

The above developments must be successful if an increase in the domestic fuel oil burner market is to relieve the heavy fuel oil situation, since at present the light distillates required for these burners must be supplied by cutting an intermediate fraction from the crude. Under present conditions, this would result in more crude run, tending to give overproduction of gasoline and heavy fuel oil.

B. Converting Fuel Oil Into Other Products

A portion of the residual fuel oils may be manufactured into other products by various chemical conversions; this may offer another means of utilizing fuel oil. Conversion to gas, hydrogenation to gasoline, and topping to give cracking stock, etc., overhead, and heavy tar bottoms, are considered in this classification.

It is now technically possible to gasify fuel oil completely by a process very similar to the usual water gas process, reacting the oil with steam. In one case—where data are available—a 5 gravity fuel oil, containing 83.3 per cent carbon and 11 per cent hydrogen, was gasified with steam to give a gas of the following approximate analysis:

	Per cent
Hydrogen	72
CO	14
CO_2	9
CH_4	1
N_2	4
	100

Approximately 60 per cent of the B.t.u. available in the total fuel oil charge (for gasification and fuel) appeared in the finished gas. This recovery of heat is of the same order of magnitude as is now being obtained in commercial water gas sets for gasification of coal. It is understood that the equipment cost and cost of operation, exclusive of fuel costs, are comparable to those obtaining for water gas generation. It would, therefore, seem that fuel oil might be directly competitive with coal in this field. In localities where cheap fuel oil and expensive coal are available, such a process may be commercially attractive, to supply public utilities, etc., with their gas. Table 5 shows the amount of coal used for water gas production, the equivalent barrels of fuel oil which this amount of coal represents, the actual oil now completely gasified in this country, and the oil used for carburetion by the gas industry.

A market apparently exists for around 30,000,000 bbls. of fuel oil per year if all of the coal now gasified were replaced by oil; this seems most unlikely, however, under present conditions. It is conceivable that some localities might so convert fuel oil; to refiners in the South the process might be attractive were it not for the extensive use of natural gas. Long-time commercial operating experience on fuel oil gasification does not seem to be available at present: It is likely that some experimentation would be necessary to refine the process for commercial operation.

[2]Based on the assumption that the installation would then be available to families having an average income in excess of $2,500 per year.

TABLE 5—GAS MANUFACTURING INDUSTRY

Materials—	1925	1927	1929
Bituminous (thousands of 2,000-pound tons)	6,871	8,103	9,031
(Equivalent to thousands of barrels of fuel oil)	(37,600)	(32,800)	(36,600)
Oil gasified (thousands of barrels)	5,020	5,500	4,680
Oil carbureted (thousands of barrels)	16,200	16,300	16,100
Gas for sale, total (millions of cubic feet)	359,402	412,236	408,401
Oil gas (millions of cubic feet)	24,280	.....	.....

TABLE 7—EFFECT OF LOWERING OCTANE NUMBER OF GASOLINE ON THE CRUDE RUN AND FUEL OIL PRODUCTION IN A LARGE REFINERY

Octane No.—	64	60	Difference
Crude run, barrels per day	86,135	80,800	—5,335
Gasoline, barrels per day	36,200	35,600	— 600
Water white, barrels per day	9,520	10,151	+ 631
Fuel oil and sludge, barrels per day	27,335	22,309	—5,026
Gas (equivalent barrels per day)	2,485	2,126	— 359

It has been shown possible, technically, to convert residual fuel oils into gasoline and gas oil by the hydrogenation process. Yields of 100 per cent can be obtained on the fuel oil. The present cost of hydrogenation, however, makes this operation unprofitable under the present market conditions; consequently, the disposition of fuel oil by this means will not be considered until market prices for gasoline have advanced materially.

It is technically possible to distill some fuel oils to give 30 to 40 per cent of distillate oil, of 16-20 gravity, together with heavier bottoms (0 to 3 gravity). Assuming that the overhead and bottoms can be used satisfactorily, this operation is extremely cheap, and might prove desirable. Studies recently conducted on the heavy tars so formed indicate that sludging and precipitation troubles will be no worse than with bunker "C" grade fuel oil; they can be burned entirely satisfactorily in an ordinary commercial fuel oil burner—by preheating to a slightly higher temperature than normal—to give a satisfactory viscosity at the burner. The heavy fuels, so handled, are somewhat slower burning and, therefore, require a larger combustion chamber; available evidence indicates that if a 12 gravity tar can be burned at a rate of 30,000 B.t.u. per cubic foot of combustion space, a 3 gravity tar will burn to liberate about 25,000 B.t.u. per cubic foot of combustion space; the heavier fuel should be operable except where furnaces are already overloaded. The heating value per gallon of this fuel is slightly higher than is a 12 gravity tar. From these considerations, it appears that the fuel should be substantially as valuable to the consumer as the current bunker "C" fuel. This fact does not seem to be generally recognized by the consumer, and some educational work along the lines of better utilization of such products should be beneficial to both consumer and refiner. Consumers using this fuel have shown reduced fuel consumption per unit of power produced. The overhead (16 to 18 gravity) can be used for carburetion of water gas; it can be cracked profitably to gasoline; it may eventually be used in Diesel engines (low speed), and possibly in domestic oil burners for heating. However, unless the heavy residuum can be sold without a serious price disadvantage, the economics of this operation are questionable, and will depend upon such agreements as can be reached locally for disposition of the residuum.

C. Modify Refining Operations to Yield Less Fuel Oil Per Volume of Gasoline

Modification in refinery technique to give more gasoline and less fuel oil from a barrel of crude offer a method of reducing oil outputs. Cracking to lower gravity tars, partial replacement of cracking units with hydrogenation—which gives no fuel oil, and cracking to higher ultimate yields of gasoline of poor antiknock qualities, then adding lead to maintain octane number, are the main examples of this general method. If the market for a low gravity tar can be developed satisfactorily without appreciable reduction in price over the present fuel oil market, it appears economical to operate coils for low gravity fuel oil with high ultimate conversion to gasoline. As an example of the reduction in fuel oil which might be anticipated, Table 6 compares the products of a refinery running 10,000 bbls. per day of crude to ultimate gasoline yield—of constant octane number—when producing 12 gravity and when producing 3 gravity tar bottoms.

TABLE 6

	Gravity tar— Run to 12	Run to 3
Bbls. of gasoline per day	5,000	5,000
Bbls. of fuel oil	4,000	3,400
Equivalent bbls. of gas	1,000	1,000

This table indicates that 15 per cent reduction of fuel oil is obtainable by such a modification; the difficulty again is in disposing of the heavier tar. The utilization of this tar in road oils may ultimately relieve the situation.

It appears technically and economically possible at present to hydrogenate certain refractory gas oils to gasoline without formation of any tar, and to obtain upwards of 85 per cent conversion of the gas oil to gasoline. By so treating a portion of refinery gas oils, fuel oil production can be reduced—the reduction depending upon the number of cracking units replaced. This obviates the necessity of attempting to market an extremely heavy fuel oil, since that fuel oil which is produced could be run to approximately bunker "C" specifications as at present.

As an example of the gasoline yields to be expected from hydrogenation and from cracking, the following experimental results have been obtained when processing a cycle gas oil by each of these methods:

COMPARATIVE YIELDS FROM CRACKING AND HYDROGENATION

	Charge Stock		
Gravity, °A.P.I.	31.5		
Initial boiling point, °F.	405		
50 per cent point, °F.	486		
Final boiling point, °F.	611		
Gasoline yield per cent (420° F. B. P.)	51.5	85	
Gasoline octane No.	76.5	82.5	
Fuel oil yield, per cent	39.5	0	
Fuel oil, gravity °A.P.I.	12	..	
Per cent gas formation	10	15	

Whether the hydrogenation operation is attractive economically will depend upon local operating costs and type of gas oil handled and upon the price structure for gasoline, gas oil, and fuel oil. In certain instances the process is already attractive when processing refractory cycle stocks to high octane number gasoline, and technical improvements are continually showing still higher gasoline production per dollar invested in equipment—which will undoubtedly extend the applications of the process.

Gasoline production can be maintained, at the same time reducing fuel oil production, by operating cracking equipment to higher ultimate yields of lower octane number gasoline and adding lead to maintain the octane number of the finished gasoline. In some instances octane number improvement is cheaper by the use of lead than by cracking, and in these cases this method may be attractive.

Table 7 shows the estimated decrease in fuel oil production, by decreasing the octane number of the raw gasoline for a large refinery.

By decreasing the average octane number four points, crude runs were in this case reduced 6 per cent, and fuel oil (plus gas) production dropped 20 per cent; while gasoline production was substantially constant. The cost of increasing octane numbers from 60 to 64 by use of lead appears in this case to be cheaper than the cost of equal improvement by cracking. The cost per octane number gallon improvement by use of lead is a function of the lead susceptibility of the gasoline in question, and the cost of lead tetraethyl. With lead at one-half cent per cubic centimeter, the relation is given below.

Octane No. improvement per cu. ft. of head per gallon	Cost per octane No. improvement
2	0.25 cent per octane number gallon
4	0.125
6	0.0833
8	0.0625
10	0.25 cent per octane number gallon

This method of reducing fuel oil production may be economical in certain cases, determined by local conditions affecting the cost of octane number improvement by cracking and by the susceptibility of the gasoline to octane number improvement by use of lead.

The methods which at this time would appear most logical to dispose of excess fuel oil would seem to be:

1. Intensive effort to dispose of heavy asphaltic residuum for secondary road construction.

2. Educate large power producers toward use of heavier residual fuels.

3. Cracking to higher yields of lower octane number gasolines, and adding lead to meet octane number requirements.

Of these, the promotion of coated secondary roads seems to offer both an outlet for tars and a possible stimulation to gasoline sales through pleasanter driving conditions, as well as giving direct aid to the road situation in this country. The other proposals may well be adopted in certain cases, depending on local conditions as to which method of fuel oil utilization or disposal is most economical.

International Operations in Colombia and Peru

CHATHAM, Ontario, Nov. 26.—Official figures of the International Petroleum Co. show that in October the average daily production of crude oil from the Colombia fields was around 28,126 bbls., a sharp drop from the September average of 45,794 bbls. a day. The Peruvian production was slightly lower, averaging 18,079 bbls. a day in October compared with 18,749 bbls. in September.

Shipments from both countries in the first nine months of 1932 were slightly higher than in the corresponding period of 1931, although September production was slightly under that of September, 1931.

In the Peruvian field in September, 1932, there were no new wells completed. The total crude production for the month was 562,485 bbls. In September, 1931, there were four new completions, none of which were tested for production; while the total crude production for the month was 587,177 bbls.

In the nine-month period ending September 30, 1932, there were three new completions in the Peruvian field with average initial production of 49 bbls. a day; while total crude production for the period was 5,753,233 bbls. This compares with 38 new completions averaging 261 bbls. initial production in the 1931 period, when the crude production totaled 5,730,595 bbls.

In the Colombian field in September, 1932, there were seven new completions with average initial production of 315 bbls. Total production for the month was 1,373,811 bbls. This compared with two new completions in September, 1931, one of which, the only one tested, showed 670 bbls. a day; while production for the month totaled 1,414,958 bbls.

For the nine months of 1932, there were 12 new completions in the Colombian field with average initial production of 427 bbls. The total crude production for that period was 13,875,064 bbls. This compared with 36 new completions averaging 655 bbls. initial production in the 1931 period, the total crude production for the nine months being 13,798,067 bbls.

Performance

made NATIONAL
America's Standard Drill Pipe

From the drilling of the first rotary well to the development of the latest field, consistent, all-round performance has earned and retained for NATIONAL Drill Pipe the complete confidence of practical operating men everywhere. The remarkable strength, the unusual toughness, the exceptional ductility, and the superior threads of NATIONAL A.P.I. Seamless Drill Pipe have given a grade of service unequalled by any other pipe.

Repeated shocks and unrelenting strains have proved beyond question that it will meet the most adverse conditions; higher and higher speeds have proved its stamina for the most advanced rotary practice; increased lengths of string have proved the soundness of its joints and the dependability of its performance in the deepest holes.

Our engineering service department will gladly cooperate with oil and gas companies on any drilling problem. Inquiries will be given prompt and careful consideration by engineers thoroughly familiar with all oil and gas fields.

NATIONAL TUBE COMPANY · PITTSBURGH, PA.

Subsidiary of United States Steel Corporation

NATIONAL A.P.I. SEAMLESS DRILL PIPE

The Oil and Gas Journal

PRODUCING REFINING PIPELINE ENGINEERING MARKETING

Published Weekly by

THE PETROLEUM PUBLISHING COMPANY

114-116 West Second Street, Tulsa, Oklahoma

P. C. LAUINGER, President
JOHN M. EGAN, General Manager
JAMES McINTYRE, Editor
ANDREW M. ROWLEY, Managing Editor
W. T. ANDERSON, Associate Editor
C. O. WILLSON, Refinery Editor

Established 1910, by PATRICK C. BOYLE

E. KLAPPENBACH, Advertising Manager
L. G. E. BIGNELL, Petroleum Engr. Editor
C. K. FRANCIS, Ph.D., Technical Editor
W. T. ZIEGENHAIN, Associate Editor
THOMAS F. SMILEY, Associate Editor
SIMON H. ROURKE, Circulation Manager

Branch Editorial Offices

CANADA, Victor Lauriston — HOUSTON, Neil Williams — SAN ANTONIO, B. D. Stevenson
CHICAGO, Robert C. Coins — LOS ANGELES, L. P. Stockman — SHREVEPORT, D. H. Bancroft
DENVER, Tolbert R. Ingram — NEW YORK, A. E. Mockler — TOLEDO, George A. Whitney
FT. WORTH, L. E. Bredberg — OIL CITY, Leon H. Walter — WASHINGTON, C. E. Kern

Branch Advertising Offices

NEW YORK CITY, C. L. Cain — CHICAGO, C. R. Farmer — CLEVELAND, Howard Markt
LOS ANGELES, J. H. Tinkham

(For representatives' complete addresses, see contents page)

Member, Audit Bureau of Circulations

What Is Market Demand?

The amended conservation law in Texas limiting production of crude to market demand has answered one question by asking another. What is "market demand"?

The assumption that it can be determined by purchasers nominating how much oil they can take is not the answer.

That was shown early in the Oklahoma City Field when one company gave 20,000 barrels as its nomination but actually took only 1,000 barrels.

Nominations made in excess of requirements, if accepted as allowable, can have but one result—breaking the market.

It can thus be seen that fixing allowable production upon nominations by purchasers is anything but a safe yardstick. It may be perverted by the policy or purpose of a purchaser unless he is held strictly to account by the state regulatory body.

It has been this approximation to strict accountability, requiring nominations and takings to balance, that has kept the situation in Oklahoma in hand. Texas has yet to learn from experience the lesson that Oklahoma has been acquiring in the past few years.

The initial report of the nominations offered in Texas under the new market demand law, while unexpected, might have been expected from the conditions that have been prevailing there.

Instead of the 791,000 barrels daily allowable under the old law the nominations under the new law ran the total for the State up to 1,100,000 barrels—an increase of 309,000 barrels daily.

Of course this was absurd, especially since in East Texas with a production of 350,000 barrels a day one leading purchaser has been able to purchase only 60 per cent, storing the other 40 per cent. How, then, could East Texas be raised to 375,000 barrels daily with no improvement in demand either there or anywhere else?

Other examples of nominations out of line with the facts were 24,800 barrels daily for Darst Creek which has been producing only 13,800 the Gulf Coast which produced 120,000 barrels daily in the week ending November 19 and 133,000 barrels daily in the week ending November 12 was nominated to produce 144,500 barrels a day with an additional 25,000 barrels for Conroe (included in the earlier figures) or a total of 169,500 barrels.

Such inflations in nominations for production can be explained only by the desire to overproduce which has been so persistent in Texas since East Texas was opened.

Allowables based upon any such nominations would simply flood the market with cheap oil, because there is not the slightest hope that the nominators could take, use or sell any such quantity of oil at the present price.

The overproduction would be just as real and disastrous whether made under the old rules or the purported "market demand" law.

If market demand is to be set by nominations from purchasers it must be from purchasers at a stated price—a genuine contract to take the quantity of oil nominated at the ruling market.

It cannot be "market demand" when the nominator says he will take double the quantity of oil he can use and then take only what he needs unless the price falls to his figure.

That is not fixing market demand but rigging the market and using the law and the machinery of the state government to do it.

Market demand for anything cannot be ascertained unless the price is known. As J. Howard Marshall of Yale law school told the engineers meeting at Ponca City:

"Control of production must of course be based upon a fair equation of available supply to ascertained demand. But demand can only be ascertained by reference to price. Where there exists a surplus of supply those who seek to calculate demand must necessarily select the price level which will determine demand. The determination of demand by a system of 'nominations' which are said to be a mere statement of existing demand, is necessarily and inevitably a calculation of demand at a price."

When nominations are made with the distinct understanding that the purchasers making such nominations mean to take that quantity of crude at the present price then that is real market demand.

Nominations made with any other thought are not genuine and cannot be regarded as market demand. The immediate question is not how much oil will you take at any price but how much will you take at the ruling market.

To say you can buy 100,000 barrels when you can use only 50,000 barrels at the existing price, and that is all you intend to buy unless the price drops and you can undersell the market, is not even smart because in the long run prices will topple all about you and you will be underneath with the rest.

If production in Texas is to be regulated to real market demand it will have to be at a price that will stand.

No one imagines that there will be a demand for 1,100,000 barrels daily from Texas in December at the present price. No one imagines that if such an allowable were set it would not bring such a wave of overproduction as to break the whole market, crude and refined, throughout the country.

If Texas were allowed any such overproduction Texas oil would be so cheap there would be immediate drops in demand in Oklahoma and other states, with corresponding collapse in prices.

Should that happen what use would there be in having this supposed conservation?

It was clearly up to the Railroad Commission of Texas to save the situation. There can be no doubt that the legislature of Texas which passed the market demand law with the approval of the people of Texas was honestly desirous of genuine conservation. It is assured that the commission is just as anxious to carry out the purpose of the legislature and the intent of the law.

This can be accomplished only by considering market demand at a price—a price that will be fair to the oil producer and that will permit the sale of petroleum products at a fair price to the consumer.

Boosting Texas allowable above even the present production, in the face of seasonal and general decline, would simply bring back the very conditions which the Texas legislature sought to get away from when it enacted the amended law.

One thing is sure. The results of any such blunder would quickly force remedial action. Texas has shown that it can be prompt in correcting a mistake when it sees the consequences.

NEW YORK State Natural Gas Corporation's new 20-inch line heads northeast from Pennsylvania toward Syracuse, N. Y., 110 miles away. Use of Dresser Couplings, throughout, puts this construction on a par with the country's major gas lines. Simple, rapid joining. Ample, necessary flexibility. Absolute, permanent tightness.

S. R. DRESSER MFG. COMPANY
BRADFORD, PA.
In Canada: Dresser Mfg. Co., Ltd., 32 Front St., W., Toronto, Ontario

DRESSER
COUPLINGS DOMINATE!

Natural Gasoline Advance in Oklahoma Reflects Demand for More Volatile Motor Fuels

By C. O. WILLSON

The strength shown in natural gasolines was the most significant development of the past week in the Oklahoma (Group 3) refined market and that of the Mid-Continent generally. With an improved demand since the middle of the month, prices on all grades advanced one-fourth cent. Had it not been for the continued weakness of the refinery gasoline market there would have been additional advances as very little material has been available for spot shipment for several days. This is particularly true in Oklahoma.

The improvement in natural gasolines is largely due to more buying on the part of refiners and jobbers in the Mid-Continent and Middle West, the south-bound movement to the Gulf Coast being unchanged. The greater emphasis being placed on volatility in their motor fuels by several large refiners and many jobbers appears to be working toward a solution of the problem of outlets for natural gasoline manufacturers. A substantial part of the business during November and that assured over the next four months is coming from refiners and jobbers who are selling a high gravity motor fuel of low distillation range which gives the quick start and acceleration favored by car owners during the winter months. Several phases of this development are discussed in an article appearing on page 29 of this issue.

With additional sellers finding it necessary to meet the lower quotations, prices on all grades of refinery gasoline are fractionally lower than they were a week ago. As has been the case for several weeks a small group of inland Texas refiners are leading in the downward trend in quotations and refiners in competitive areas including Oklahoma, Kansas, North Louisiana and Arkansas are compelled to meet the lower prices although they have relatively little spot material to sell. Oklahoma refiners are quoting a low of 3¾ cents for low octane U. S. Motor gasoline with prices of 3½ cents, basis Group 3, from East Texas and as low as 3¼ cents for resale.

In regard to gasoline, refiners throughout the Mid-Continent and competitive areas are marking time waiting to see what the next development will be in the Texas crude oil production situation. Sellers for several weeks have looked to that State as the cause of most of their troubles so far as the tank car market on gasoline was concerned. The sale of gasoline at refineries centering in East Texas at prices which showed that the posted schedules for crude oil were not the basis for the selling price, has been directly responsible for the market decline since early fall throughout the Mid-Continent and Middle West.

At this writing preparations are being completed to enforce a new conservation law in Texas based on the "market demand." Whether this law is to be the expected cureall for the ills of the Mid-Continent gasoline market during the next few months is not apparent at this time, there being some indications that the State will have trouble interpreting and enforcing its provisions as they have had with previous laws in the past. Market observers are of the opinion that unless some adequate remedy for the situation in the crude oil end of Mid-Continent industry is found in the immediate future, lower posted crude oil schedules are assured. The trend was indicated over the past week when four independent refiners with plants in Texas, Oklahoma and Kansas rescinded their action taken in October when prices were advanced 12 cents per barrel and returned to the price schedules being paid by several of their large and small competitors. It is freely predicted that similar action will be taken by additional companies unless they are assured an advance in gasoline tank car prices which will justify the top posted schedules which they are now paying for their crude oil supplies.

Crude Price Revision

In this connection it is believed that any revision in posted crude oil schedules will take into consideration the changed conditions in the markets for refinery products at most of the refining centers in the Mid-Continent and Middle West.

Refined Market Barometer

Weakness in one or more refinery products was reported from several areas over the past week. At interior points the principal weakness centers in refinery gasolines and lubricating oils with other products generally strong especially all grades of fuels. Along the coast weakness is reported in fuels as well as gasoline due in part to the uncertainty regarding the future of posted crude oil prices in the Mid-Continent. Natural gasolines were strong in the latter area. Cylinder stocks were reduced in the East and wax prices advanced in the Mid-Continent.

Mid-Continent—Refinery gasoline market continues weak with strong natural gasoline market. Demand for fuels except high cold test and low gravity industrial grades continues to exceed demand and prices are firm. Lubricants slow. Kerosene firm.

East Coast—Uncertainty regarding crude oil market factor in gasoline and fuel oil market. Good demand for furnace oils. Kerosene firm. Prices on steam refined stocks and bright stocks lower.

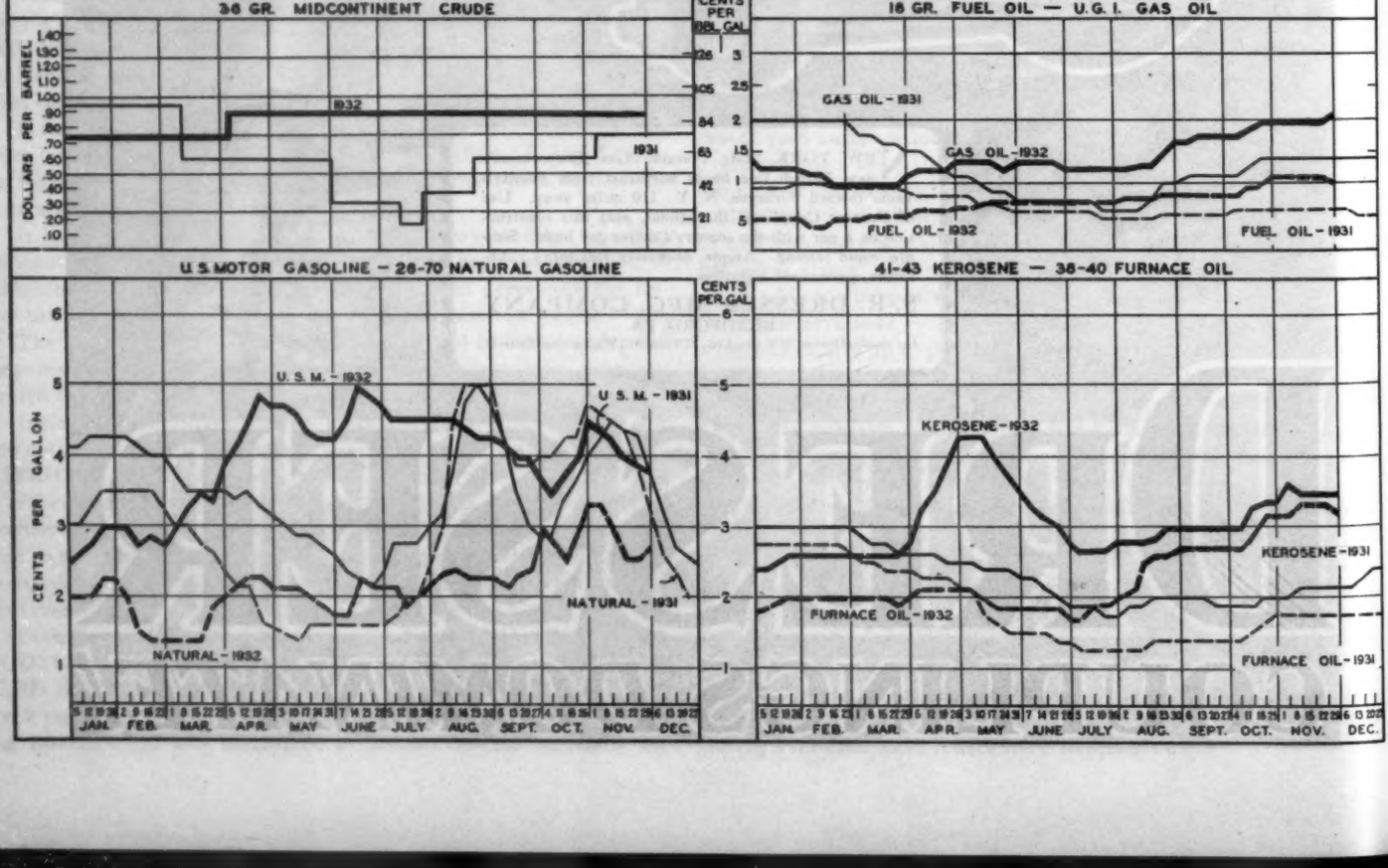
Pennsylvania—Gasoline demand slow. Kerosene firm. No important price changes in cylinder stocks.

Gulf Coast—Gasoline demand slow. Fuel oil and gas oil demand less active. Fair demand for neutral oils.

Chicago—Prices on gasoline and special naphthas lower. Kerosene active. Strong market for distillates, gas oils and residual fuels.

California—Competition of Texas gasoline in Washington and Oregon reflected in lower prices in domestic shipments to those states. Fuels slow.

Representative Mid-Continent Quotations on Crude Oil and Refined Products Basis Oklahoma (Group 3)


36 GR. MIDCONTINENT CRUDE
DOLLARS PER BARREL
1932
1931
CENTS PER BBL. GAL.
18 GR. FUEL OIL — U.G.I. GAS OIL
GAS OIL - 1931
GAS OIL - 1932
FUEL OIL - 1932
FUEL OIL - 1931
U.S. MOTOR GASOLINE — 28-70 NATURAL GASOLINE
CENTS PER GALLON
U. S. M. - 1932
U. S. M. - 1931
NATURAL - 1931
NATURAL - 1932
CENTS PER GAL.
41-43 KEROSENE — 38-40 FURNACE OIL
KEROSENE - 1932
KEROSENE - 1931
FURNACE OIL - 1932
FURNACE OIL - 1931
JAN. FEB. MAR. APR. MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC.

The strong demand and relatively high prices prevailing for practically all grades of fuels are being reflected in the demand for crude oils. In general, based on present crude oil and refinery prices the lower gravities are more desirable. Cases are cited in which refiners operating with the lower gravity crude oils are showing a profit while competitors operating with high gravity and higher priced crudes are on the wrong side of the ledger.

This situation is indicated in the following tables giving yields in skimming operations with a low gravity crude and a high gravity crude:

40° GRAVITY CRUDE OIL
(Prices in cents per gallon)

Product—	Pct. yield	Gals.	Price per gal.	Total
Gasoline	38	15.96	3.75	59.85
Kerosene and distillate	10	4.2	3.5	14.7
Topped crude	50	21.	1.	21.00
Loss	2			
Total	100	42		93.53

30° GRAVITY CRUDE OIL

Gasoline	30	12.6	3.75	47.25
Kerosene and distillate	10	4.2	3.5	14.7
Topped crude	58	24.36	2	48.72
Loss	2			
Total	100	42		110.67

The top posted price at the wells as paid by several companies for 30° gravity crude oil is 92 cents and 40° gravity $1.12 or a difference of 20 cents per barrel. The low posted prices are 80 cents and $1 which is also a difference of 20 cents per barrel.

The tables show that the actual gross return from a barrel of low gravity crude oil based on the skimming operations is greater in the case of the high gravity crude oil although the cost of the crude oil for the latter operation is 20 cents per barrel more at the well. It is not contended that the tables reflect conditions at all plants although they do cover conditions at two plants with which the writer is familiar.

The difference in the gross revenue for the two operations is largely due to low priced gasoline and the higher price received for the topped crude oil in the low gravity operation than in the high gravity. This in turn is due both to the percentage yields of topped crude and the quality of the product. The topped crude oil in both cases is sold as fuel oil with a gravity in excess of 24. In the case of the high gravity crude coming from Oklahoma City, Seminole and other similar crudes including East Texas and Texas Panhandle, the topped crude oils have a very high cold test and bring about 1 cent per gallon. In the case of the low gravity crude the topped crude has a zero to 10 cold test. There is a strong demand for this product as furnace oil fuel and the refiners can obtain 2 cents per gallon.

Crude Sold as Fuel

A further reflection of this condition is shown in the fact that considerable low gravity crude oil is now being sold direct to buyers of furnace oil material. The shortage of furnace oil at refineries is so acute in some cases that buyers looked into the possibilities of buying low gravity crude oil and many purchases have been made. Some of this crude has been in storage for long periods and light fractions have evaporated, leaving a product with sufficiently low flash that it can be used as special fuel. Such a product of course must have a low cold test, low viscosity and free of entrained water or emulsions. The average high gravity crude oils in the Mid-Continent are not satisfactory for this use due to the presence of the volatile fractions and the high cold test. Satisfactory crudes are being purchased in lieu of refinery fuel oils of from 26° to 30° gravity and prices as high as $1.10 are being paid.

Briefly expressed, the trend in refinery tank car markets over the past few months has tended to increase the value of low gravity crude oils for refinery processing with a corresponding decrease in the value of the high gravity crudes. Furthermore the 2-cent differential per degree of gravity now being paid cannot be justified on a basis of returns at refineries.

The fact that a refinery has cracking equipment does not change this relative situation. In fact it tends to emphasize it. The high gravity crude oils give a refinery a large yield of straightrun gasoline of low octane value which must either be sold at the low of the motor fuel market, reprocessed or blended with better material. The low gravity crude gives a relatively small yield of straightrun gasoline and high yield of charging stock for the cracking units. Thus, as one operator explained during the past week, refined market conditions and the emphasis placed on octane value in motor fuels is tending to do away with the premium value of high gravity crude and place all crudes on an equal basis. This operator and others predict that regardless of whether the crude oil market goes up or down over the next few months, it will be necessary to revise posted schedules and take into consideration this change in fundamental refining and marketing conditions.

Explain Meaning of Component Material Provision in Lubricating Oil Tax

By CHARLES E. KERN
Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., Nov. 26.—Lubricating oil is not a component part of an automobile engine and is subject to tax when sold to a manufacturer of automobiles, according to a ruling by the Bureau of Internal Revenue under Regulations 44, Article 11. The ruling states that advice has been requested whether lubricating oil sold by a manufacturer or producer thereof to a manufacturer of automobiles who furnishes this oil in the crankcase of automobiles when sold to the consumer, is taxable under Section 601 of the revenue act of 1932. The ruling further states:

"Section 620 of the revenue act of 1932 provides that a taxable article under Title 4 of the act may be sold tax free by virtue of that section when it is used by the purchaser as component material in the manufacture of another article which is also taxable under Title 4 of the act.

"The term 'component material' as used in the law signifies a substance which comprises an integral part of an article, one which may not be easily separated from the article and which may not be replenished. Oil placed in the crankcase of an automobile may be drained at will and a new supply furnished. Such oil is not a component material of the automobile. Consequently, all lubricating oil sold by a manufacturer, or a producer thereof, to a manufacturer of automobiles for the purpose of placing it in the crankcases of automobiles sold is taxable under Section 601 (c) 1 of the revenue act of 1932."

Gasoline and Naphtha

Several sellers of gasoline in Oklahoma were encouraged the first of the week by the fact that more inquiries were received for gasoline. The buyers were seeking bargain material and if they placed orders, refiners in Texas got most of the business because with one or two exceptions Oklahoma and Kansas refiners are asking more than Texas refiners (basis Group 3) for all grades of gasoline in shipments north. However, it is believed that many jobbers have low inventories and with an improvement in the Texas price situation refiners in other Mid-Continent areas would have more spot business. The few spot sellers in Oklahoma were generally asking a low of 3¾ cents for U. S. Motor (low octane) with resale material quoted at 3½ and 3⅝ cents. This amounts to a reduction of one-eighth cent for the week. The same reductions have been made in the higher gravity grades. The latter are not freely offered but the demand is also slow.

Kerosene

Several Oklahoma refiners are able to sell substantial quantities of kerosene varying in gravity from 41 to 44 at 3¾ to 4¼ cents for delivery within the State. The same refiners are having difficulty in securing the same price for a low octane gasoline. The prices on kerosene for interstate shipment are unchanged from last week with 3½ to 3¾ cents the going market on the 41-43 water white grade.

Distillates

For Oklahoma, the price on 38-40 furnace oil and tractor fuel has been advanced to a low of 3⅝ cents with many sales reported at 3½ cents. The prime white grades are quoted over the same price range. Buyers are more anxious to secure prompt shipment of the desired material than in prices, and premiums have been paid in several cases. As previously explained buyers are purchasing crude oils and various cuts of refined oils to secure a product suitable for domestic burners.

Fuels and Gas Oils

The price on U.G.I. gas oil is advanced in this week's price tables to 2¼ cents low and the same applies to gas oil charging stocks, some of which are bringing as high as 2½ cents per gallon. Buyers state that they can secure lower priced gas oils in other areas but Oklahoma refiners are able to find outlets at the higher quotations.

More low gravity industrial fuel oil was available in Oklahoma last week and the price has been reduced to a low of 42½ cents. As has been explained previously in these columns, some low gravity fuels are available under this price. These

(Continued on Page 31)

American Petroleum Institute Weekly Refinery Statistics

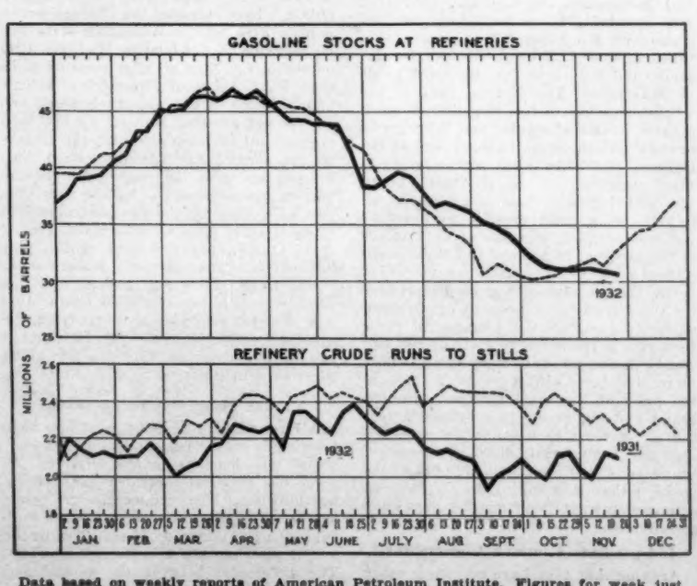
Figures below reported for week by American Petroleum Institute. (1) Per cent refinery capacity represented. (2) Daily average crude runs to stills. (3) Gasoline stocks. (4) Gas oil and fuel oil stocks. All figures in 42-gallon barrels.

Week Ending November 26, 1932, Compared to Week Ago

	Week ending November 26				Week ending November 19			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
East Coast	99.1	448,000	3,558,000	9,277,000	99.1	424,000	3,612,000	9,290,000
Appalachian	95.0	89,000	1,037,000	759,000	95.0	87,000	968,000	760,000
Ind., Ill., Ky.	97.5	319,000	2,942,000	3,863,000	97.5	350,000	2,768,000	4,020,000
Okla., Kans., Mo.	85.2	195,000	3,083,000	2,821,000	88.4	196,000	2,861,000	3,011,000
Tex. Gulf	97.7	390,000	5,318,000	9,156,000	98.2	406,000	5,114,000	9,488,000
La. Gulf	97.3	91,000	1,163,000	3,319,000	97.3	88,000	1,075,000	3,455,000
Inland Texas	59.2	91,000	1,146,000	2,134,000	67.5	102,000	1,027,000	2,133,000
N. La. and Ark.	88.5	43,000	156,000	506,000	94.6	48,000	133,000	514,000
Rocky Mtn.	90.8	32,000	1,076,000	443,000	91.4	33,000	1,086,000	439,000
California	94.6	428,000	12,140,000	100,248,000	94.6	439,000	12,197,000	100,236,000
Total U. S.	91.9	2,126,000	31,619,000	132,526,000	93.2	2,193,000	30,841,000	133,346,000

Week Ending November 26, 1932, Compared to Year Ago

	Week ending November 26				Week ending November 28, 1931			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
East Coast	99.1	448,000	3,558,000	9,277,000	100.0	438,000	4,221,000	10,202,000
Appalachian	95.0	89,000	1,037,000	759,000	90.8	99,500	1,204,000	1,664,000
Ind., Ill., Ky.	97.5	319,000	2,942,000	3,863,000	98.9	319,000	3,437,000	5,852,000
Okla., Kans., Mo.	85.2	195,000	3,083,000	2,821,000	89.6	236,400	2,828,000	4,790,000
Tex. Gulf	97.7	390,000	5,318,000	9,156,000	99.8	412,600	5,043,000	8,680,000
La. Gulf	97.3	91,000	1,163,000	3,319,000	100.0	116,400	876,000	3,264,000
Inland Texas	59.2	91,000	1,146,000	2,134,000	....	119,800	1,625,000	3,313,000
N. La. and Ark.	88.5	43,000	156,000	506,000	....	46,200	156,000	806,000
Rocky Mtn.	90.8	32,000	1,076,000	443,000	89.4	50,200	1,366,000	608,000
California	94.6	428,000	12,140,000	100,248,000	97.1	455,400	12,919,000	97,060,000
Total U. S.	91.9	2,126,000	31,619,000	132,526,000	95.2	2,292,600	33,685,000	136,439,000



Data based on weekly reports of American Petroleum Institute. Figures for week just ended not shown in graph but are included in accompanying table

Tight Distillate and Fuel Oil Market in Chicago District Was Foreseen by Some Refiners

By ROBERT C. CONINE
Chicago Bureau, The Oil and Gas Journal

CHICAGO, Nov. 28.—Certain major refiners in this district can say that they not only foresaw the present tight situation in the distillate and fuel oil markets, but also, that they conducted their plant operations accordingly and have plenty of these materials to sell—at their prices. Shell Petroleum Corp., for instance, names a price of $1.05 a barrel, Group 3, on its 26-28 zero fuel oil, and Sinclair Refining Co. makes an open market price of $1.26 a barrel on its 28-30 zero fuel oil. Standard Oil Co. (Indiana), Empire Oil & Refining Co., Globe Oil & Refining Co., and The Texas Company are similarly minded on the matter of prices on their distillate and residual fuel oils. These refiners are not in the least surprised that motor fuels and burning oils are moving in close formation pricewise, and as the refiners in this district have shown that they usually know what they are talking about, it may be well to weigh a prediction from these quarters, that is, that natural gasolines will soon be selling above U. S. Motor gasoline.

Resellers' Credit Worries

While several of the larger jobbing accounts have been able to make financial arrangements with major and semimajor refiners to "tide them over," the number of less favored jobbers who are failing to discount for the first time is increasing rapidly, and the reseller who is unable or unwilling to take a mortgage on the jobber's business, as did a refiner who lent $50,000 recently, is looking to this winter with grave apprehension. Several gasoline and blending material distributors are frankly worried over developments in their relations with jobbers, and these marketers say that they cannot see how the jobbers are making ends meet under the current service station and tank wagon postings. These postings in Chicago and Milwaukee, for instance, are: (tax not included), 11 cents for the regular grade and 9.5 cents for third grade in Chicago, and 12.2 cents for the regular grade and 9.2 cents for the third grade in Milwaukee. The strange part of the whole situation is the fact that a much greater volume of regular and third grade, branded or otherwise, is being sold at the Chicago and Milwaukee service stations (and elsewhere in the territory) under the posted prices than is generally admitted. It is quite possible to purchase the regular grade gasoline of any refiner in the territory in most of the Midwestern states at 2 cents below the placarded price. In the case of the major refiners the commercial discount contract is given as the reason. As the issuance of these contracts is restricted to fully owned stations, there are numerous cases where there will be a difference of 2 cents in the price of the same gasoline, national brand and all, at stations located across the street from each other. In introducing the commercial discount contract, Standard Oil Co. (Indiana) takes the position that it is taking an above-board action to protect itself against secret negotiations of this type.

Independents Continue Underselling

Arguing that they have no course other than price cutting to engage competitively with nationally advertised and recognized gasoline brands, the majority of trackage station and minor independent operators continue to urge the majors and semimajors to advance their service station and tank wagon prices while they themselves undersell the current low postings as much as 2 cents. Although reports were given out that a number of independents had advanced their service station prices to the normal (currently) of 13.6 cents, including 4.1 cents state and Federal taxes, in Chicago, a trip over the city from the most northerly extension to the southermost point throughout which the extra cent on the Q.D.A. is in effect revealed that the price cutters have not advanced their postings in the least.

Retail Price Advance Improbable

When the service station and tank wagon situation in the territory is examined it appears highly improbable that there will be any betterment in the near future. If there is any change in the Chicago prices, the indications point to a downward price revision rather than to advances. The most recent changes made in the territory by Standard Oil Co. (Indiana) have been reductions, and reports of market conditions throughout the 13 states show that similar revisions are called for by drastic cuts on the part of independents, including refiners, at hundreds of minor and major points. The regular grade service station price was reduced 2 cents to 16.2 cents at Evansville, November 18; and on November 17, the tank wagon price of the regular grade was cut 2 cents to 11.5 cents at St. Louis. The third grade tank wagon price was reduced 1 cent to 10.5 cents at St. Louis, November 17.

Extension of Metropolitan Area

In Chicago district the jobber's Q.D.A. is a cent more on the three grades than elsewhere in the territory. However, the mountain is coming to Mahomet, and while the Q.D.A.'s of 4 cents on Ethyl gasoline, 3.5 cents on regular grade gasoline, and 2 cents on third grade gasoline, are being restricted strictly to the Chicago metropolitan area, the various companies which are giving these special Q.D.A.'s have extended the Chicago metropolitan area to the Wisconsin state line on one side of the lake to Michigan City on the other. Now all that remains to be done for the sake of symmetry is a little manipulation of the western borders, and we are off for Des Moines. As has been pointed out in these columns, the jobbers in the district are having a hard time keeping up with the competition of the majors and semimajors. By the time they pay 3.75 cents for the gasoline, plus 2.44 cents freight, plus 4 cents taxes, plus 2 cents Q.D.A., plus 0.5 cent rental, plus 0.5 cent handling costs, the jobbers' costs reach 13.19 cents per gallon, and the service station price is 13.6 cents. Just how the jobbers who are supplying the gasoline which is posted at 12 cents a gallon, tax paid, in Chicago are going to remain in business is difficult to see.

Local Protection Being Given

A large number of jobber contracts have been made on a basis of the general service station markets in the territory. As there has been no general price revision, but numerous local reductions, the result has been the recognition of a normal market posting at hundreds of points while the actual postings are 4 or more cents less. The differences between the normal and actual markets have in many cases wiped out the marginal guarantee completely, threatening the continued existence of the jobber. Several major companies have found it expedient to overlook the fact that their contracts with the jobbers do not call for local protection. These companies are giving 50-50 local protection to jobbers who are found not to have precipitated the price reductions.

In the Chicago district the price cutters are not in a happy frame of mind. In fact, they are beginning to worry greatly over the developments in connection with natural gasolines and blending naphthas. Purchase of low octane U. S. Motor gasoline at the current low service station prices is not economical, and the same objection holds now for blending naphthas and even kerosenes and prime white distillate. The material which has long helped them bring down costs, natural gasoline, according to all indications, will cost them 3 cents, Group 3, for the 26-70 grade, if they are able to find any. On Friday and Saturday certain distributors who have been handling natural gasolines were fairly besieged by buyers, and no material was available. The distributors have been advised by their sources to refrain from seeking business until further notice, and it is hinted that the supply will be limited for some time. In the Detroit area the scarcity of natural gasolines has been particularly felt by independents. In the Minneapolis area the independents are having an easier time as several refiners are apparently fighting to get gallonage with little thought of profits. In the St. Louis and Indianapolis areas the gasoline tank car markets appear to be demoralized and price cutting at the service station is rampant. In Kansas, where service station prices have reached the lowest levels, the official bulletin of the oil men's association has this to say: "No one will deny that the industry's marketing system is in a bad way. Some say a general house cleaning is in order before the marketing branch can be put on a profitable basis. Perhaps some of the larger companies have such a plan in the back of their heads . . . It has been said that the quickest way to correct bad marketing conditions is by way of the pocketbook."

The independents in the Chicago district can be thankful that the major and semimajor companies have not met their prices. It appears out of order that they should expect price betterment in the retail end as long as they are underselling, and the best they can hope for, according to indications, is for the larger marketers to refrain from reducing postings. Certain independents are relying upon the production of a Chicago district skimming plant which operates on Michigan crude. The gasoline is a hard knocker, but anyone can claim high antiknock value, usually, when tests cost $10.

Refiners are showing a great deal of originality in the matter of new contracts with jobbers. If the announcement of a majority of producers are taken as a guide, there will be few of the ordinary 5-cent top open and split below forms signed up for 1933 business. With few exceptions the companies are promising the trade revolutionary propositions.

While the trade Monday thought that deliberations connected with curtailment of crude oil production in the East Texas fields might prove of a constructive nature, the nearer realities of considerably diminished consumption of gasoline and the appearance of distress material are of greater importance here, apparently, because the service station and tank wagon markets are considered to be just at the point where a price break due to lowered cost to independents will cause the citywide structure to move downward.

Gasoline Tank Car Markets

Monday's gasoline tank car prices were about an eighth of a cent lower than last week. A larger volume of material is reported moving under the ruling brackets upon which most of the contracts are based, but the slowness in the open markets has revealed the futility of forcing methods, and in general the following prices may be considered representative: U. S. Motor gasoline of no octane specifications moved down to 3⅝ to 3⅞ cents; 60-62 400 endpoint gasoline was quoted Monday at 3⅞ to 4⅛ cents; 64-66 375 endpoint gasoline, and the 68-70 360 endpoint gasoline are in limited competition with a locally produced high gravity, low endpoint gasoline which should be rated in terms of heptane value rather than octane number. The 375 endpoint material is quoted at 4½ to 4¾ cents, and the 360 endpoint gasoline is offered at 4¾ to 4⅞ cents. Aviation gasoline, fighting grade of no octane specifications, appeared slightly weaker and a price range of 5 to 5¼ cents is considered representative.

Special Naphtha Tank Car Prices

Although naphtha producers will enter their main contracting season with their open market prices from a cent to 2 cents higher than at the same period of last year, the most recent developments have been decidedly adverse. Principal marketers of special naphthas in the Chicago district Monday lowered their prices a quarter of a cent down the entire list. The new postings are: Light cleaners' naphtha, 6¼ to 6½ cents; lacquer diluent, 180-250, 7½ to 7¾ cents; lacquer diluent, 140-200, 8 to 8¼ cents; rubber solvent, 6 to 6¼ cents; Stoddard solvent, 5¾ to 6 cents; petroleum thinner, 300-415 and over 83° flash, 5 to 5¼ cents; V.M.&P. naphtha, 6 to 6¼ cents; petroleum spirits (heavy), 3¾ to 4 cents.

Kerosene Tank Car Markets

Service stations in the smaller communities are reported to be doing a booming business in kerosene, and a check with manufacturers of equipment connected with the utilization of kerosene for lighting and heating say that their sales have shown a large increase which is more than seasonal. This may make up in a fair measure for the loss of tractor and stationary engine business. However, considerable kerosene is said to be going into gas oils and other fuels to meet domestic heating oil requirements. The kerosene tank car business appears to be somewhat slower but prices are firm at 3½ to 3¾ cents for the 41-43 water white material, and 3⅝ to 3⅞ cents for the 42-44 water white kerosene.

Distillates and Fuel Oils

Prices for distillates, gas oils and residual fuel oils continue upward although efforts to depress the markets are reported in certain quarters. Monday's prices are as follows: 38-40 tractor fuel, 3½ to 3⅝ cents; 38-40 straw, 3½ cents; 32-36 straw, 3¼ to 3⅜ cents; 32-36 industrial gas oil, 2¼ to 2½ cents; 28-30 zero fuel oil, $1.10 to $1.15 a barrel; 22-26 zero fuel oil, 72½ to 77½ cents; 18-22 zero fuel oil, 65 to 70 cents; below 18 gravity, 60 to 65 cents.

East Coast Market Position Improves as Cuts in Operations at Refineries Decrease Stocks

By A. E. MOCKLER
New York Bureau, The Oil and Gas Journal

NEW YORK, Nov. 28.—Aside from a further weakening in the position of the lubricating oil market, East Coast refined products were in fairly steady position during the past week, and the market undertone showed a little improvement as refinery operations again turned downward. The cuts announced by Humble earlier in the week on several grades of crude, however, with continued weakness in the Mid-Continent gasoline situation, had tended to impart a rather nervous tone on some products, and the outlook for the nearby position was regarded as slightly less favorable than has been the case in recent weeks.

Crude runs to stills at East Coast refineries during the week ended November 19 turned sharply downward, averaging 424,000 bbls. per day, as compared with 471,000 bbls. daily during the previous week, and refineries were operating at but 66.4 per cent of capacity, as compared with 73.7 per cent in the previous week. This renewed curtailment of operations was reflected by improvement in the statistical position of the market, total motor fuel stocks in East Coast territory dropping to 11,914,000 bbls. from the 12,007,000 bbls. reported at the close of the previous week, while gas and fuel oil stocks were off from 9,679,000 bbls. to 9,290,000 bbls.

Refiners are showing more of a tendency to draw on California and southwestern subsidiaries and affiliates for additional stocks of products which may be temporarily in short supply in this area, and it is indicated that determined efforts will be made to hold down refinery runs in this territory throughout the winter months to avoid further unsettlement of the market here, from the supply situation angle.

The determined refusal on the part of a number of purchasing companies to fall into line with the recent increases in posted crude prices in the Southwest, together with the action of Humble in posting reduced prices for crude in the Gulf Coast and Mirando Fields during the week, is taken as evidence of inherent weakness and unsettlement in the crude price situation, and products markets are naturally in a disturbed condition, pending further developments in the crude market. The further cuts in gasoline prices at refineries in Group 3 and Gulf Coast territories has likewise adversely affected the position of the East Coast motor fuel markets, and refiners are much less optimistic now regarding the substantial price recovery which has been looked for in the East Coast area for the past few weeks.

Recent developments with respect to crude oil prices in the Southwest, it is reported, have crystallized sentiment among independent interests for another drive in Washington at the coming session of Congress for a tightening of import regulations on petroleum and products, and a probable sharp increase in duties on both crude and fuel oils, imports of which have continued heavy in the face of the existing tariff regulations. It is no secret that the results of the present oil tariff legislation have been far from satisfactory to the independent group which played so important a part in securing the enactment of the legislation in question, but serious doubt exists in oil quarters as to whether the incoming administration will be favorably disposed towards any further building up of the tariff wall.

Refinery Gasoline

No price revisions developed in the East Coast refinery gasoline markets during the past week, but the market undertone was less firm and the outlook for any immediate price increase was quite doubtful, although an advance of one-half to 1 cent per gallon has been known to be pending for some weeks back. Gulf Coast gasolines, however, both low octane and the higher qualities, can now be laid down at principal East Coast ports at prices under existing posted schedules, and it is considered likely that refiners here may defer advances in posted prices in this territory until such time as the Gulf Coast price shows recovery.

Cold weather throughout the territory tended to curtail consumption of gasoline somewhat during the period, and while sales showed a litle spurt over the Thanksgiving Day holiday, total gallonage for the week was off from the previous week's total. Refiners have cut their operations to balance production with consumption in an effort to strengthen the market position, but further curtailment of refinery runs is necessary for the immediate future, with further declines in consumption anticipated.

Jobbers, who had been buying with confidence during recent weeks, and in most instances keeping their storage well filled, are now showing less confidence in the market position, and tank car movement was sharply lower in a number of instances during the week under review. Lower prices at Group 3 and Gulf Coast refineries are, of course, responsible for the change in sentiment on the part of buyers in this area.

Notwithstanding the present differential between East Coast and Gulf Coast prices, in favor of the latter, it is not expected that much gasoline will move into this territory in the open market, due to current financial conditions and the general market uncertainty. Regular handlers of the Gulf Coast product may increase their operations somewhat, due to their larger margin at the moment, but it is not believed that independent operators would be tempted to "take a flyer" in the cargo market unless the present differential should be sharply widened by further price reductions in Gulf Coast markets.

Tank Wagon Gasoline

Marketers reported some pickup in demand during the middle of the week, in anticipation of a higher retail gallonage over the Thanksgiving Day holidays, but the week, on the whole, showed rather slim business.

Cold weather has accounted for a further seasonal contraction in demand in the East Coast territory, and with many motorists laying up their cars for the balance of the winter, further losses in volume are anticipated. New licenses for automobiles will have to be obtained in most states in this territory on January 1, and in view of existing economic conditions it is considered likely that many motorists will refrain from purchasing the new plates and lay their cars up out of service until the summer, at which time they can obtain plates for the half year at 50 per cent of the cost of licenses for the full year 1933.

Notwithstanding the sharper weather over the greater part of the territory, there has been little improvement in the demand for premium motor fuels, and marketers are resigned to a sharp drop in their gallonage of the higher-priced gasoline for the year. Having met with relatively little success in their efforts to secure greater co-operation from retail station operators in a drive for more gallonage on premium gasolines, marketers in most instances have abandoned their efforts to stimulate sales of this product, and are again concentrating on their regular high-octane brands.

The half-cent advance in tank wagon and service station prices initiated during the previous week by Standard of New York has been met by all principal marketers, and prices appear to be well established at the higher levels. Contrary to expectations, however, the increase did not spread to the remainder of the East Coast territory, but was confined to New York and New England.

Kerosene

Tank car business has continued heavy, and the market is strong at 5½ cents per gallon, with increasing indications of a possible advance to 6 cents per gallon, f.o.b. refinery, in the near future.

Tank wagon distribution of kerosene is running into exceptionally large gallonage totals, and many distributors report that their sales of this product are the largest on record for recent years. Many consumers are using kerosene for domestic heating purposes, and consumption of this oil in special burners in cooking ranges appears to be steadily increasing. Kero-

(Continued on Page 38)

Exports and Imports of Refined Products; Receipts of California Oils in the East

NEW YORK, Nov. 28.—French buyers came into market for two cargoes of 64-66 375 endpoint gasoline, one inquiry being for 4,000 tons and the other for a 6,000 to 7,000-ton cargo, both for January-February loading. Buyers were endeavoring to place the business under 4½ cents, but suppliers were unwilling to go under that figure, and up to the time of writing the business had not been placed. In view of recent price advances at Constanza, however, it was considered possible that the business would actually go to Gulf sellers, instead of being diverted to Rumania, as has been the case with so many cargoes in recent months.

Kerosene was a little easier at the Gulf for export during the week with 41-43 prime white available at 4¼ cents, and 41 water white held at 4⅜ to 4½ cents per gallon. No cargo business developed during the period, however.

Three cargoes of East Texas crude, ranging from 8,000 to 9,000 tons each, were reported placed during the week, at $1.01 to $1.02 per barrel, f.o.b. tanker Gulf port. The cargoes, which are for December-January lifting, are to go to France.

Italian buyers were reported to have contracted during the week for 50,000 tons of Mexican crude for delivery over 1933. Panuco oil was reported involved in the transaction. Italian refiners have substantially increased their cracking capacity this year, but hitherto have obtained much of their cracking stock from Russia and Rumania.

Rumanian export sellers have eased off their quotations on several products. Posted prices f.o.b. Constanza as of November 10 are reported in mail advices as follows: Light gasoline, $18.18 per ton, off 25 cents for the week; heavy gasoline, $14.26 per ton, unchanged; lamp oil, 4 cents lower at $7.86 per ton; gas oil, 21 cents lower at $7.29 per ton; and the following products unchanged at $12.79 for first grade white spirit, $12.68 for second grade; and $3.24 per ton for fuel oil.

California Oil Receipts

There was only one cargo of California petroleum received at Atlantic or Gulf Coast ports during the week ended November 19, a cargo of 85,000 bbls. of gasoline arriving at New York. This was a daily average of 12,143 bbls., compared with 192,000 bbls., or 27,429 bbls. per day, for the previous week and a daily average of 23,464 bbls. for the four weeks ended November 19.

At the close of the week one cargo was reported afloat from California for the East, 104,000 bbls. of furnace oil on the tanker Comet of the Socony-Vacuum fleet being en route to New York.

Petroleum Exports

The following table shows exports of principal refined petroleum products reported from the local port during the three weeks ended November 19 (all figures in gallons unless otherwise noted):

	Week ended		
	Nov. 19	Nov. 12	Nov. 5
Gasoline	5,000	9,000	115,000
Naphtha	530,000	.....	760,000
Kerosene	.....	26,000	17,000
Fuel and gas oil	65,000	5,000	9,000
Lub oil	490,000	485,000	585,000
Pet., refined	260,000	60,000	1,196,000
	Pounds		
Petrolatum	4,000	125,000	18,000
Paraffin wax	1,875,000	1,545,000	780,000
Refined	780,000	60,000	56,000
Scale	285,000	420,000	65,000
Lub grease	590,000	785,000	835,000

Imports

Imports of crude and refined petroleum at the principal United States ports for the week ended November 19 totaled 645,000 bbls., a daily average of 92,143 bbls., compared with 827,000 bbls., a daily average of 118,143 bbls., for the previous week, and a daily average of 109,071 bbls. for the four weeks ended November 19. Details follow:

(Barrels of 42 gallons)

	Bbls.
At Atlantic Coast Ports—	
Baltimore	65,000
New York	304,000
Philadelphia	108,000
Others	104,000
Total	581,000
Daily average	83,000
At Gulf Coast Ports—	
Total	*64,000
Daily average	9,143
At all United States Ports—	
Total	645,000
Daily average	92,143
Daily average four weeks	109,071

*Received at Port Arthur.

Imports during the week comprised 376,000 bbls. of crude petroleum, 55,000 bbls. of gasoline, and 214,000 bbls. of fuel oil.

REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement except as otherwise noted

EXCLUSIVE OF TAXES

The following quotations are exclusive of the Federal excise taxes of 1 cent a gallon on gasoline and 4 cents on lubricating oils, which became effective June 21, 1932.

Gasolines

	Nov. 29		Nov. 22	
OKLAHOMA (Group 3)—				
*U. S. Motor	.03¾	.04⅛	.03⅞	.04¼
60-62 400	.04	.04½	.04⅛	.04½
64-66 390	.04⅛	.04⅞	.04¼	.04¾
64-66 375	.04⅜	.04⅝	.04⅜	.04¾
68-70 350	.04½	.05	.04⅝	.05
NORTH TEXAS—				
*U. S. Motor	.03⅝	.03⅞	.03¾	.04
60-62 400	.03⅞	.04	.04	.04⅛
64-66 390	.04⅛	.04¼	.04¼	.04½
64-66 375	.04¼	.04½	.04½	.04¾
64-66 360	.04⅜	.04¾	.04¾	.04⅞
†NORTH LOUISIANA—				
*U. S. Motor	.04¼		.04½	
60-62 400	.04½		.04¾	
†ARKANSAS—				
*U. S. Motor	.04¼		.04½	
CHICAGO (Based on Oklahoma Group 3)—				
*U. S. Motor	.03⅝	.03⅞	.03¾	.04
60-62 400	.03⅞	.04⅛	.04	.04¼
64-66 375	.04⅜	.04⅝	.04⅝	.05
Aviation fighting grade	.05	.05¼	.05⅛	.05¼
68-70 360	.04¾	.04⅞	.04⅞	.05

Octane Ratings—Above quotations cover price ranges on gasoline in which no octane rating is given. On November 29, in the case of the U. S. Motor and 60-62 400 endpoint grades, where an octane rating of 57-65, inclusive, is guaranteed, prices are three eighths cent per gallon higher than quotations shown in above tables; where an octane rating of better than 65 is guaranteed, the prices are five-eighths cent higher. In the case of the remaining grades, gasolines of 65 octane rating or higher are quoted one-half cent higher than the quotations shown in above tables.

*Present distillation specifications on U. S. Motor gasoline are: 10 per cent evaporated, 167° F. maximum; 50 per cent, 284° F. maximum; 90 per cent, 392° F. maximum; residue not exceeding 2 per cent; maximum vapor pressure, 12 pounds. Additional specification on U. S. Motor gasoline available from bulletins of Bureau of Mines, Washington, D. C.

†For Arkansas, Louisiana and Mississippi delivery.

PENNSYLVANIA (inland refineries)—				
U. S. Motor	.06	.06¼	.06	.06¼
60-62 400	.06¼	.06½	.06¼	.06½
64-66 375	.06½		.06½	
68-70 350	.06¾		.06¾	

Octane Ratings—In the case of U. S. Motor and 60-62 400 endpoint grades, same price differentials based on octane ratings as shown in above tables for Oklahoma and other Mid-Continent areas:

CALIFORNIA—(domestic movement only)—				
54-58 U. S. Motor	.06	.06½	.06	.06½
58-60 400	.07	.07½	.07	.07½
EAST COAST—				
U. S. Motor, below 65 octane:				
New York (Bayonne)	.06¼	.06½	.06¼	.06½
Boston	.06¼	.06½	.06¼	.06½
Baltimore, Md.	.06¼		.06¼	
Charleston, S. C.	.06¼		.06¼	
U. S. Motor, 65 octane and above:				
New York (Bayonne)*	.06½	.07	.06½	.07
Boston	.07		.07	
Baltimore, Md.*	.06½	.07	.06½	.07
Charleston, S. C.*	.06½	.07	.06½	.07
GULF COAST (domestic)—				
U. S. Motor, 65 octane and above	.05½		.05½	
U. S. Motor, below 65 octane number	.04⅝	.04⅞	.04⅝	.04⅞

*Contract price.

Naphthas

	Nov. 29		Nov. 22	
OKLAHOMA (Group 3)—				
50-52 450 (blending)	.03⅞	.04¼	.04	
PENNSYLVANIA (inland refineries)—				
50-54 430-450 (blending)	.06¼	.06½	.06	.06¼
ARKANSAS—				
48-50 450 (blending)	.04¼	.04½	.04½	.04¾
CHICAGO (Based on Oklahoma Group 3)—				
50-52 450 (blending)	.03⅝		.03½	.03⅝
Cleaners' naphtha, 56-58 gr., 200 i.b.p.-320 e.p.	.06¼	.06½	.06½	.06¾
Lacquer diluent, 180 i.b.p.-250 e.p.	.07½	.07¾	.07¾	.08
Lacquer diluent, 140 i.b.p.-200 e.p.	.08	.08¼	.08¼	.08½
Rubber solvent, 68-70 gr., 100 i.b.p.-300 e.p.	.06	.06¼	.06¼	.06½
Stoddard solvent, 300 i.b.p.-410 e.p., over 100° flash	.05¾	.06	.06	.06¼
Pet. thinner, 290, 300 i.b.p.-415 e.p., over 83° flash	.05	.05¼	.05¼	.05½
V.M.&P. naphtha, 56-58 gr., 190-200 i.b.p.-330 e.p.	.06	.06¼	.06¼	.06½
Petroleum spirits	.03¾	.04	.04	.05¼

Natural Gasolines

	Nov. 29		Nov. 22	
OKLAHOMA (Group 3)—				
Grade 18-55	.03⅝		.03½	
Grade 26-70	.02¾		.02½	.02⅝
Grade 30-70	.02⅝		.02⅝	
*Low vapor pressure grades:				
15 lb. v.p. (max.)	.03⅞		.03½	.03⅝
11 lb. v.p. (max.)	.04¼	.04⅜	.04	.04¼
NORTH TEXAS—				
Grade 18-55	.03¼		.03	.03½
Grade 26-70	.02⅝		.02⅜	.02½
Grade 30-70	.02½		.02⅝	
*Low vapor pressure grades:				
15 lb. v.p. (max.)	.03¾	.03⅞	.03⅜	.03½
11 lb. v.p. (max.)	.04¼		.04	.04¼
NORTH LOUISIANA—				
Grade 26-70	.03		.02⅝	
CALIFORNIA—				
75-78 375	.04¾	.05½	.04¾	.05½

Note—Grades 18-55, 26-70 and 30-70 are three of 24 grades adopted by the Natural Gasoline Association of America effective January 1. The grades are based on pounds vapor pressure and amount evaporated at 140° F. While not exactly the same specifications apply, Grade 18-55 corresponds to the former Grade A, Grade 26-70 to former Grade AA and Grade 30-70 to former Grade BB.

*All low vapor pressure grades have minimum recovery of 96 (natural gasoline method.)

Kerosenes

(All kerosenes water white)

	Nov. 29		Nov. 22	
OKLAHOMA (Group 3)—				
41-43	.03½	.03¾	.03½	.03⅝
42-44	.03¾	.03⅞	.03¾	.03⅞
NORTH TEXAS—				
40-41	.03⅜		.03⅜	
41-43	.03½		.03½	
†NORTH LOUISIANA—				
41-43	.03¾	.04	.04	
42-44	.04¼		.04¼	
†ARKANSAS—				
41-43	.03¾	.04	.04	
PENNSYLVANIA (inland refineries)—				
45	.04⅝	.04¾	.04⅝	.04¾
46	.04¾	.04⅞	.04¾	.04⅞
47	.04¾	.05	.04¾	.05
CHICAGO (Based on Group 3)—				
41-43	.03½	.03¾	.03½	.03¾
42-44	.03⅝	.03⅞	.03¾	.03⅞
***CALIFORNIA—**				
38-40 high burning test	.04	.04¾	.04	.04¾
NEW YORK (Bayonne, N. J.)—				
41-43	.05½		.05½	
GULF COAST (domestic)—				
41-43 water white	.04¾	.05	.04¾	.05

*For Pacific Coast consumption.
†For Arkansas, Louisiana and Mississippi delivery.

Tractor Fuels*

	Nov. 29		Nov. 22	
OKLAHOMA (Group 3)—				
39-40 prime white	.03⅝	.03½	.03⅝	.03½
38-40 light straw	.03¼	.03½	.03¼	.03⅜
NORTH TEXAS—				
38-40 light straw	.03¼	.03⅜	.03¼	
CHICAGO (Based on Group 3)—				
38-40 light straw	.03½	.03⅝	.03½	
PENNSYLVANIA (inland refineries)—				
41-43 prime white	.04¼		.04¼	

*There are no standard specifications for tractor fuels. Grades commonly sold have flash under 175° F. (open cup) and under 575° F. endpoint and less than .2 per cent sulphur. Tractor fuels are available from all Mid-Continent refining groups at prices in line with the Oklahoma market taking into consideration differentials in freight rates.

Furnace Oils*

	Nov. 29		Nov. 22	
OKLAHOMA (Group 3)—				
32-36 straw	.03½	.03¼	.03½	.03¼
36-38 straw	.03¼	.03⅜	.03¼	.03⅜
38-40 straw	.03⅜		.03¼	.03⅜
39-41 prime	.03⅜	.03½	.03⅜	
NORTH TEXAS—				
38-40 straw	.03¼	.03⅜	.03⅛	.03¼
†NORTH LOUISIANA—				
36-40	.04		.04	
†ARKANSAS—				
32-36	.03⅜	.03½	.03⅜	.03½
CHICAGO (Based on Group 3)—				
32-36 straw	.03¼	.03⅜	.03¼	.03⅜
38-40 straw	.03½		.03½	
PENNSYLVANIA (inland refineries)—				
40-41 prime white	.03¾	.04	.03¾	.04
NEW YORK (Bayonne, N. J.)—				
32-36	.04		.04	
36-40	.05		.05	
21 (industrial)	.03½		.03½	

*Above prices are for furnace oils of zero cold test under 190° F. flash and good odor.

†For Arkansas, Louisiana and Mississippi delivery.

Gas Oil, Diesel Oil and Fuel Oil

Gas oil (G.O.) quoted per gallon basis; Diesel oil and fuel oil per barrel.

	Nov. 29		Nov. 22	
OKLAHOMA (Group 3)—				
32-36 (G.O.) cracking stock	.02½	.02¼	.02	.02¼
U.G.I. (G.O.)	.02¼	.02¼	.02	.02⅛
32-36 zero to 15 (G.O.) high flash	.02⅞	.03	.02¾	.02⅞
28-30, zero to 10	1.00	1.05	1.00	1.05
26-30, zero to 10	.85	.90	.85	.90
24-26	.65	.70	.65	.70
20-22	.55	.60	.55	.60
Below 16	.42½	.47½	.45	.50
NORTH TEXAS—				
32-36 (G.O.) industrial	.01⅞	.02	.01⅞	.02
22-26	.50	.55	.45	.50
Below 20	.45	.50	.40	.45
NORTH LOUISIANA—				
32-36 (G.O.) zero	.03¼		.03¼	
14-16	.40	.45	.40	.45
†ARKANSAS—				
30-32 (G.O.) zero high flash	.03¼		.03¼	
14-16	.40	.45	.40	.45
CHICAGO (Based on Group 3)—				
32-36 (G.O.) industrial	.02¼	.02½	.02⅛	.02¼
28-30 (zero)	1.10		1.10	
22-26	.72½	.77½	.72½	.77½
18-22	.65	.70	.62½	.67½
Below 18	.60	.65	.57½	.62½
PENNSYLVANIA (inland refineries)—				
36-40	.03¼	.03½	.03¼	.03½

Note—Fuel oils of more than 40 cold test generally 5 to 10 cents per barrel less in all areas than shown in above tables.

†For Arkansas, Louisiana and Mississippi delivery.

CALIFORNIA—				
30-34 (G.O.) per bbl.	.75	.85	.75	.85
27 plus Diesel	.75	.85	.75	.85
15-19 bunker (at tidewater)	.55	.65	.55	.65
15-19 (cargo lots)	.50	.60	.50	.60
15-19 (tank cars)	.40	.55	.40	.60
GULF COAST—				
28-30 (G.O.)	.03½	.03¾	.03½	.03¾
28-30 Diesel	1.50	1.65	1.50	1.65
Bunker C (bulk cargoes)	.45	.50	.45	.50
Bunker C (bunkers)	.60		.60	
NEW YORK (Bayonne, N. J.)—				
28 plus (G.O.)	.04		.04	
*28-30 Diesel	1.65		1.65	
26-30 Diesel (tank cars)	.04		.04	
†Bunker C	.75		.75	

*Lighterage 6½ cents per barrel.
†Lighterage 5 cents per barrel.

Petroleum Coke*

Prices per ton f.o.b. refineries in Chicago area.

Breeze (screenings)	5.50	5.50
Still runs	6.50	6.50
Lump and egg	7.50	7.50

*Refineries will absorb freight to 80 cents a ton.

Neutral Oils

(Viscosity at 100° F. and color)

	Nov. 29		Nov. 22	
OKLAHOMA (Group 3)— Zero to 10 Cold Test:				
150-3	.06¼	.06½	.06¼	.06½
180-3	.07½	.07¾	.07½	.07¾
180-4	.07	.07¼	.07	.07¼
200-3	.08¼	.08½	.08¼	.08½
200-4	.08	.08¼	.08	.08¼
240-3	.09¾	.10	.09¾	.10
240-4	.09½	.09½	.09¼	.09½
280-3	.11¼	.11½	.11¼	.11½
280-4	.10¼	.10½	.10¼	.10½

300-3.5	.11¾	.12	.11¾	.12
350-3.5	.12¼	.12½	.12¼	.12½
400-4	.12¾	.13	.12¾	.13
500-4.5	.13	.13½	.13	.13½
100-2 paraffin oil	.04¼	.04½	.04¼	.04½
15-30 Cold Test:				
200-3	.07½	.07¾	.07¾	.08
200-4	.07¼	.07½	.07½	.07¾
240-3	.09¼	.09½	.09¼	.09½
240-4	.08¾	.09	.08¾	.09
280-3	.10¾	.11	.10¾	.11
280-4	.09¾	.10	.09¾	.10
PENNSYLVANIA—				
150 vis., No. 3, 400-405:				
Zero pour test	.12	.13	.12	.13
10 pour test	.11	.12	.11	.12
15 pour test	.10	.10½	.10	.10½
25 pour test	.09	.09½	.09	.09½
180 vis., No. 3, 25 pour test	.12	.12½	.12	.12½
200 vis., No. 3:				
Zero pour test	.18	.19	.18	.19
10 pour test	.17	.18	.17	.18
15 pour test	.16		.16	
25 pour test	.13½	.14	.13½	.14
30 pour test	.13		.13	
GULF COAST—				
Pale Oils:				
100-2-2½	.04¾	.05	.04¾	.05
200-3	.06	.06¼	.06	.06¼
300-3	.07		.07	
500-3½	.08¾	.09	.08¾	.09
750-3½	.09¾	.10	.09¾	.10
1,200-3½	.11¾	.12	.11¾	.12
2,000-4	.12½	.13	.12½	.13
Red Oils:				
200-5-6	.05		.05	
300-5-6	.05¾	.06	.05¾	.06
500-5-6	.07¾	.08	.07¾	.08
1,200-5-6	.10¾	.11	.10¾	.11
2,000-6 plus	.12	.12½	.12	.12½
CALIFORNIA—				
Pale Oils:				
100-2½-3	.08	.08½	.08	.08½
200-2½-3	.08¾	.10	.08¾	.09½
300-3-3½	.10	.10½	.10	.10½
350-3-4	.10¾	.11	.10½	.10¾
400-3-4	.11	.11½	.10¾	.11
450-3-4	.11½	.12	.11¼	.12
550-3-4	.12	.12½	.12	.12½
Red Oils:				
200-4½-5	.08¾	.09¼	.08½	.09
300-5-6	.09½	.10½	.09¼	.10
350-5-6	.10½	.10¾	.10	.10¾
400-5-6	.10¾	.11¼	.10¾	.11¼
450-5-6	.11¼	.11½	.11¼	.11½
500-5-6	.11½	.12	.11½	.12
600-5-6½	.12	.12¼	.12	.12¼
700-6½ plus	.12¼	.12½	.12¼	.12½
750-6½ plus	.12½	.12¾	.12¼	.12½
900-6½ plus	.13	.14½	.13	.14½

Bright and Steam Refined Stocks

OKLAHOMA (Group 3)—	Nov. 29		Nov. 22	
630 light green	.07¾	.08	.07¾	.08
600 light green S.R.	.05	.06	.05	.06
600 dark green S.R.	.04	.04½	.04	.04½
Bright Stocks:				
190-200 D	.17½		.17½	
150-160 D, 0-10	.15½		.15½	
150-160 D, 10-25	.15		.15	
150-160 D, 25-40	.14½		.14½	
150-160 E	.14½		.14½	
PENNSYLVANIA—				
600 S.R.	.09½	.10½	.09½	.10½
650 S.R.	.12	.13	.12	.13
600 Pennsylvania flash	.13	.13½	.13	.13½
630 D filtered	.19	.19½	.19	.19½
600 E filtered	.14	.15	.14	.15
Pennsylvania Grade bright stock:				
Bright Stock, No. 8 color, 145-50 vis.				
210-540-550 flash:				
10 pour test	.21	.22½	.21	.22½
15 pour test	.20	.21	.19½	.20½
25 pour test	.18	.19	.18	.19

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—	Nov. 29		Nov. 22	
124-126 white crude scale..	.01⅞	.02	.01¾	.01⅞
PENNSYLVANIA—				
122-124	.02⅛		.02⅛	
124-126	.02⅛	.02¼	.02⅛	.02¼
NEW YORK (Bayonne, N. J.)—				
Refined Wax:				
120-122	.02¾		.02¾	
125-127	.02¾		.02¾	
130-132	.03		.03	
133-135	.04		.04	
135-137	.04⅛		.04⅛	
Petrolatum in barrels in carload lots:				
Dark green	.01¾		.01¾	
Amber	.02⅛		.02⅛	
Extra amber	.02½		.02½	
Cream	.04⅞		.04⅞	
Lily white	.05½		.05½	
Snow white	.06½		.06½	

Export Prices

GASOLINE				
GULF COAST—	Nov. 29		Nov. 22	
U. S. Motor	.04		.04	
60-62 400	.04½		.04½	
61-63 390	.04½		.04½	
64-66 375	.04½		.04½	
LOS ANGELES, CALIF.—				
U. S. Motor, 53-55 437 e.p...	.03¾	.04¼	.03¾	.04¼
U. S. Motor, 65 octane num.	.05		.05	
U. S. Motor, 67 octane num.	.05¼		.05¼	
U. S. Motor, 69 octane num.	.05½		.05½	
58-60 400 endpoint gasoline.	.04¼	.05	.04¼	.05
KEROSENE				
GULF COAST—				
41-43 prime white	.04¼		.04½	
41 water white	.04⅝	.04½	.04⅝	
LOS ANGELES, CALIF.—				
41-43 water white	.03¾	.04¼	.03¾	.04¼
LUBRICANTS				
NEW YORK (f.a.s. in bbls.)—				
600 filtered	.22		.22½	
600 Warren E	.19		.19½	
600 S.R. unfiltered	.17		.17½	
650 S.R. unfiltered	.18½		.19	
600 flash S.R.	.19½		.20	
630 flash S.R.	.24		.24½	
Bright stock, No. 8 color	.24½		.25	
Bright stock, No. 6½ color, dil.	.24		.24½	
NEUTRALS				
NEW YORK—Pale Engine Oil, Bulk (vis. at 100)—				
230-3¾	.10	.10¼	.10	.10¼
180-3½	.09½	.09¾	.09½	.09¾
100-2¼	.05	.05½	.05	.05½
Red Engine Oil, Bulk (vis. at 100):				
300-6½	.09½	.09¾	.09½	.09¾
250-6	.09	.09¼	.09	.09¼
200-6	.08½		.08½	

Crude Oil Prices

Oklahoma, Kansas, North and East Central Texas

East Texas (Oct. 15, 1932)* $1.10
East Texas (Oct. 1, 1932)† ..... .98
Corsicana heavy (Oct. 15, 1932)‡ ..... .74
Other fields ..... See gravity table

*Posted by Sun Oil Co., Sinclair Prairie Oil Marketing Co., Magnolia Petroleum Co., Panola Pipe Line Co., The Texas Company, Gulf Pipe Line Co., Toronto Pipe Line Co.
†Posted by Humble Oil & Refining Co., October 1, 1932; posted by Tidal Refining Co. and Atlas Pipe Line Co., April 11, 1932.
‡Magnolia Petroleum Co.

West Texas

Iatan and Westbrook..Same as North Texas
Crane, Upton, Crockett, Howard, Glasscock, Mitchell, Ector, Winkler and Pecos counties ..... See note below
Lea County, New Mexico ..... (See Rocky Mountain States)
Toborg, Pecos County* ..... $ .65

Note—Effective October 15, 1932, The Texas Company, Magnolia Petroleum Co., Shell Petroleum Corp. and Gulf Pipe Line Co., 75 cents; effective April 11, 1932, Humble Oil & Refining Co. and Stanolind Oil & Gas Co., 65 cents; effective November 22, Cel-Tex Refining Co., 65 cents.
*Shell Petroleum Corp effective October 15, 1932.

Texas Panhandle

Gray County, Wheeler County and Carson-Hutchinson Counties.... See gravity table

Gulf Coast

Grade A and Grade B specifications discontinued by leading buyers ..... See gravity table
Jennings, La. (Apr. 11, 1932)* ..... $ .75
Lockport, La...See Gulf Coast gravity table
Refugio, light ..... See gravity table
Refugio, heavy (Apr. 11, 1932)‡ ..... .80
Markham (Oct. 15, 1932)§ ..... See Gulf Coast gravity schedule
High Island (Apr. 11, 1932)¶ ..... See Gulf Coast gravity schedule

*Gulf Refining Co. ‡Humble Oil & Refining Co. §The Texas Company. ¶Yount Lee Pipe Line Co.

South Central and Southwest Texas

Darst Creek ..... See note below
Luling (Oct. 15, 1932)* ..... $ -
Mirando (Nov. 21, 1932)† ..... .70
Mirando (Oct. 15, 1932)* ..... .90
Petrus (Apr. 11, 1932)† 1.00
Salt Flat ..... See note below
Thrall‡ .....
Lytton Springs (Lockhart) (Oct. 15, 1932)* 1.04
Dobrowolski§ .....
Same as Mid-Continent gravity scale up to and including 38-38.9°
Somerset¶ .....
Same as Mid-Continent gravity scale up to and including 38-38.9°

Note—Darst Creek, effective October 15, 1932, Magnolia Petroleum Co., The Texas Company and Gulf Pipe Line Co., 85 cents effective April 11, 1932, Humble Oil & Refining Co., 75 cents. Salt Flat, effective October 15, 1932, Magnolia Petroleum Co and Shell Petroleum Corp., 85 cents; effective April 11, 1932, Humble Oil & Refining Co. 75 cents. Humble Oil & Refining Co posted 80 cents for Mirando crude oil on April 11, 1932.
*Posted by Magnolia Petroleum Co.
†Humble Oil & Refining Co.
‡Thrall prices same as North Central Texas, less 19¼ cents per cwt. freight.
§Pioneer Oil & Refining Co.
¶Greyburg Oil & Refining Co.

North Louisiana and Arkansas

Smackover, Ark. (all grades) ..... See note below
Urania, La. (Oct. 15, 1932) ..... $ .70
East El Dorado, Ark. (Oct. 15, 1932).. .75
Stephens, Ark., below 29° (Apr. 12, 1932) .61
Stephens, Ark., 29° and above (Apr. 12, 1932) ..... .64
Other fields ..... See gravity table

Note—Smackover, all grades, effective October 15, 1932, The Texas Company, Magnolia Petroleum Co., Louisiana Oil & Refining Co., Gulf Refining Co. of Louisiana, 75 cents; effective April 11, 1932, Standard Oil Co. of Louisiana, 60 cents. Urania posted by H. L. Hunt, Inc., and Louisiana Oil & Refining Co. East El Dorado posted by Magnolia Petroleum Co. and Gulf Refining Co Stephens, Ark., posted by Louisiana Oil & Refining Co. and Atlantic Oil Producing Co

Rocky Mountain States

OHIO OIL CO.-MIDWEST REFINING CO.
Iles, light (Aug. 24, 1931) ..... $ .75
Iles, heavy (Aug. 24, 1931) ..... .53
Fort Collins (Apr. 11, 1932) ..... .86
Florence (Apr. 11, 1932) ..... .80
Wellington (Apr. 11, 1932) ..... .76
Greasewood Dome, Colo. (Apr. 11, 1932) 1.00
Dutton Creek, Wyo. (Apr. 11, 1932) ..... .82
Rock Creek, Wyo. (June 1, 1932) ..... .90
Frannie, light (Nov. 3, 1931) ..... .61
Frannie, heavy (Nov. 3, 1931) ..... .51
Salt Creek ..... See Stanolind Mid-Continent price schedule
LaBarge..... Mid-Continent gravity scale
Big Muddy (Apr. 11, 1932) ..... .98
Grass Creek (June 1, 1932) 1.10
Elk Basin (June 1, 1932) 1.10
Lance Creek (Apr. 11, 1932) 1.15
Poison Spider (Mar. 5, 1931) ..... .70
Notches (Mar. 14, 1927) ..... .65
Hudson (June 3, 1931) ..... .65
Lander (Mar. 5, 1931) ..... .40
Rex Lake (Feb. 22, 1930) 1.10
Osage (Apr. 15, 1931) ..... .98
Lost Soldier (Apr. 12, 1932) ..... .80
Hamilton Dome (Nov. 3, 1931) ..... .45
Greybull (Apr. 11, 1932) 1.20
Cat Creek (Apr. 11, 1932) 1.20
Pondera (Nov. 3, 1931) ..... .90
Sunburst, Mont. (Apr. 11, 1932) 1.05
Hogback, N. Mex. (Aug. 24, 1931) ..... .80
Border, Mont. 1.55
Red Coulee, Alberta 1.55
Lea County, N. Mex. ..... See note below

(Continued on Page 30)

Crude Oil Gravity Table

Degrees gravity—	Kansas, Oklahoma, North Texas, East Central and Central Texas	Kansas, Oklahoma, North Texas, East Central Texas and Central Texas	North Louisiana and Arkansas	North Louisiana and Arkansas	Hutchinson, Carson and Moore Counties, Texas	Gray County, Texas	Hutchinson, Carson and Moore Counties, Texas	Gray County, Texas	Gulf Coast Texas and Louisiana	Gulf Coast Texas and Louisiana	Cameron Meadows, Louisiana	Salt Creek and La Barge, Wyoming
	1	2	3	4	5	6	7	8	9	10	11	12
Below 25	....	....	$ 80	$.68	....	....	....	....	$ 90	$ 80	$ 80	..
25-25.9	....	....	.82	.70	....	....	....	....	91	.81	81	....
26-26.9	....	....	.84	.72	....	....	....	....	92	.82	.82	....
27-27.9	....	....	.86	.74	....	....	....	....	93	.82	.83	....
28-28.9	....	....	.88	.76	....	....	....	....	94	.84	.84	..
Below 29	$.88	$.76	....	....	....	....	....	....	....	....	....	$.76
29-29.9	.90	.78	.90	.78	$ 65	$.77	....	....	95	85	.85	78
30-30.9	.92	.80	.92	.80	.67	79	....	....	.96	86	86	.80
31-31.9	.94	.82	.94	.82	.69	.81	....	....	97	87	.87	82
32-32.9	.96	.84	.96	.84	.71	.83	....	....	.98	88	88	.84
33-33.9	.98	.86	.98	.86	.73	.85	....	....	.99	.89	.89	86
34-34.9	1 00	.88	1 00	.88	.75	.87	$.66	$.76	1 00	.90	.90	.88
35-35.9	1.02	.90	1.02	.90	.77	.89	.68	.78	1.01	.91	.91	.90
36-36.9	1 04	.92	1 04	.92	.79	.91	.70	.80	1 02	.92	.92	.92
37-37.9	1.06	.94	1.06	.94	.81	.93	.72	.82	1.04	.94	.94	.94
38-38.9	1 08	.96	1 08	.96	.83	.95	.74	.84	1 06	.96	.96	.94
39-39.9	1.10	.98	1.10	.98	.85	.97	.76	.86	1.08	.98	.98	.94
40 and over	1.12	1.00	1.12	1.00	.87	.99	.78	.88	1.10	1.00	1.00	.94

Column 1—Effective October 15, in Kansas, Oklahoma, North Texas, East Central Texas and Central Texas by Sinclair Prairie Oil Marketing Co.; in Oklahoma, North Texas, East Central Texas and Central Texas by Magnolia Petroleum Co. (Magnolia's schedule begins below 28 degrees, 79 cents; 28-28.9 degrees, 88 cents, with 2 cents added for each degree upward to 40 and over at $1.12); in Kansas, Oklahoma and North Texas by Continental Oil Co.; in Oklahoma and North and Central Texas by The Texas Company; in Kansas and Oklahoma by Philtex Oil Co., Empire Pipe Line Co., Shell Petroleum Corp., Pure Oil Co., Gypsy Oil Co., National Refining Co.; in Oklahoma by Barnsdall Refineries, Inc., Deep Rock Oil & Refining Co., Producers Oil Co.; in North and Central Texas by the Gulf Pipe Line Co.; in Kansas by the Skelly Oil Co., Vickers Refining Co., White Eagle Oil Corp. and Eldorado Refining Co.

Column 2—Effective April 11, in Kansas, Oklahoma and North Central Texas by the Stanolind Crude Oil Purchasing Co.; in Kansas and Oklahoma by Carter Oil Co.; in East Central, Central and North Texas by the Humble Oil & Refining Co.; in Oklahoma by Mid-Continent Petroleum Corp., Champlin Refining Co., Eason Oil Co., Pepper Gasoline Co.; in Kansas by Derby Oil Co. and Kanotex Refining Co. Effective November 23 by Eldorado Refining Co. in Kansas, and on November 22 by Anderson & Prichard, Inc., in Oklahoma.

Column 3—Effective October 15, by The Texas Company, Louisiana Oil Refining Co. and Magnolia Petroleum Co., as per schedule above and Gulf Refining Co., whose schedule begins at below 29 gravity, 88 cents.

Column 4—Effective April 11, Standard Oil Co. of Louisiana and Stanolind Oil & Gas Co.

Columns 5 and 6—Effective October 15, Phil Tex Oil Co., as per above schedules, The Texas Company and Magnolia Petroleum Co. Texas and Magnolia schedules begin at below 35 gravity at 87 cents in Gray County and below 35 gravity at 75 cents in Hutchinson and Carson Counties.

Columns 7 and 8—Effective April 11, Humble Oil & Refining Co.

Column 9—Effective October 15, Sun Oil Co., Sinclair Prairie Oil Co., The Texas Company, Gulf Pipe Line Co., Pure Oil Co., Magnolia Petroleum Co. (in Lockport and Iowa Pools).

Column 10—Effective April 11 by Humble Oil & Refining Co. in Goose Creek, Hull, Liberty, Orange, Pierce Junction, Mykawa, Moss Bluff, Raccoon Bend, Barbers Hill, Sour Lake, Spindletop, Sugarland, West Columbia, Humble, Rabbs Ridge and Refugio light oil. On November 21, 1932, Humble Oil & Refining Co. revised its Gulf Coast and Refugio prices for oil below 25 degrees as follows: Below 20 degrees, 60 cents; 20 to 24.9 degrees 70 cents. Effective July 18, the Humble Oil & Refining Co. posted Conroe crude as follows: 35-35.9 gravity, 90 cents, with 2 cents added for each degree upward to 40 and over, at $1. Tidal Refining Co. met the Humble's schedule in Conroe on November 9, 1932.

Column 11—Effective October 15, Magnolia Petroleum Co.

Column 12—Effective April 11, Midwest Refining Co.

(California Crude Oil Prices on Page 30)

TANK WAGON MARKETS

Quotations for gasoline and kerosene in United States, as furnished by the larger marketing concerns, include taxes

November 29, 1932

TAXES

The gasoline quotations given in the following tables include the 1-cent Federal tax as well as state, county and city taxes. The gasoline quoted is the regular or standard grade. In most marketing areas a third or competitive grade is generally available at 1.5 or more cents per gallon under the service station price for the regular grade. Ethyl Gasolines are sold 3 cents above the service station price for the regular grade.

Standard Oil Co. (Indiana)

	Gasoline Tank wagon	Gasoline Service station	Gasoline Incl'ds tax of	Kero. tank wagon
Chicago	16.1	16.1	4.0	10.0
Decatur, Ill.	17.6	17.6	4.0	10.1
E. St. Louis	16.9	14.9	4.0	9.3
Joliet	17.6	15.6	4.0	9.6
Peoria	17.6	15.6	4.0	10.1
Quincy	17.4	17.4	4.0	9.9
Davenport, Ia.	17.7	17.0	4.0	10.4
Des Moines	17.7	16.9	4.0	8.0
Mason City, Ia.	17.7	17.7	4.0	9.0
Sioux City	17.3	17.3	4.0	10.0
Duluth, Minn.	18.7	18.7	4.0	11.0
Mankato	18.3	18.3	4.0	8.1
Minneapolis	16.4	15.4	4.0	11.0
LaCrosse, Wis.	19.4	19.4	5.0	11.1
Green Bay, Wis.	18.8	18.8	5.0	10.5
Milwaukee	17.3	17.3	5.0	10.0
Madison	18.5	18.5	5.0	10.2
Detroit, Mich.	13.5	13.5	4.0	9.0
Grand Rapids	17.5	16.5	4.0	10.3
Saginaw	16.6	16.6	4.0	10.8
Evansville, Ind.	18.2	16.2	5.0	†13.9
Indianapolis	18.4	18.4	5.0	†14.1
South Bend	18.7	18.7	5.0	†14.4
Fargo, N. D.	20.1	20.1	4.0	13.0
Huron, S. D.	19.5	19.5	5.0	11.8
Sioux Falls	19.0	19.0	5.0	10.0
K. C., Mo.*	15.1	15.1	4.0	8.7
Springfield*	17.0	17.0	4.0	8.0
St. Louis	11.5	11.0	4.0	9.4
St. Joseph*	13.0	13.0	4.0	7.5
Wichita, Kans.	15.9	14.9	4.0	7.0
Bartlesville, Ok.	14.5	17.0	5.0	8.0

*State tax 2 cents, 1-cent city tax and 1-cent Federal tax.

†Includes 4-cent tax. Buyers of kerosene not used as motor fuel can secure refund of tax.

Effective November 4—New dump discount applicable on all grades of gasoline sold from tank wagon. Any tank wagon customer buying 25 gallons or more at one time will be given 1-cent discount per gallon off tank wagon price at time of delivery. Customers not under contract receive no other discount.

Effective January 1—Discounts on Q.D.A. on 500 gallons or more per month throughout territory; Red Crown Ethyl Gasoline, 3 cents off tank wagon price; Red Crown gasoline, 2½ cents off tank wagon price; Stanolind Blue gasoline, 1 cent off tank wagon price. On deliveries of 75,000 gallons or more each classification allowed 1 cent additional discount.

Discounts on resellers authorized agent's agreement: Same amounts as above except made off service station price instead of tank wagon price.

Stanolind Furnace Oil in Chicago

Effective November 1, 1932, prices f.o.b. Chicago, tank wagon prices: No. 1 (36-40 lt. stw. zero), 100 gallons or more, 7 cents; No. 2 (30-34 stw. zero), 150 gallons or more, 6½ cents; No. 3 (32-36 zero), 400 gallons or more 5.75 cents; No. 4 (13-16 zero), 400 gallons or more, 4.75 cents. Viscosity of No. 4, 90-115 at 100° F.

Fuel Oils

Chicago Oil Heat Institute Prices

Spot market prices on 350 gallons or over deliveries, and top prices on contracts, respectively: 38-40, 7 and 8 cents; 32-36 light, 6¾ and 7¾ cents; 32-36 dark, 6½ and 7½ cents; 28-30, 5¾ and 6¾ cents; 24-26, 5 and 6 cents; 18-22, 4¾ and 5¾ cents. On deliveries of less than 350 gallons the spot price is one-half cent higher.

Southwestern District

MAGNOLIA PETROLEUM CO.

	Gasoline Tank wagon	Gasoline Service station	Gasoline Incl'ds tax of	Kero. tank wagon
Dallas, Tex.	14.5	17.0	5.0	8.0
Fort Worth	14.5	17.0	5.0	8.0
Houston	14.5	17.0	5.0	8.0
San Antonio	14.5	17.0	5.0	8.0
El Paso	16.0	18.0	5.0	10.0
Texarkana	*19.0	16.0	5.0	†11.0
Muskogee, Okla.	13.5	16.0	5.0	8.0
Okla. City	14.5	17.0	5.0	8.0
Tulsa	14.5	17.0	5.0	8.0
Ft. Smith, Ark.	*16.5	16.5	5.0	†10.0
Little Rock	16.5	16.5	7.0	†10.0

*Less 2½ cents to dealers. †Less 3 cents to dealers.

Southern District

STANDARD OIL CO. (KENTUCKY)

	Gasoline Tank wagon	Gasoline Service station	Gasoline Incl'ds tax of	Kero. tank wagon
Atlanta, Ga.	20.0	20.0	7.0	11.0
Augusta	20.0	20.0	7.0	11.0
Macon	20.0	20.0	7.0	12.0
Savannah	20.0	20.0	7.0	12.5
Birm'ham, Ala.	23.0	23.0	8.0	11.0
Mobile	22.0	22.0	8.0	10.0
Montgomery	23.0	23.0	8.0	13.5
Jackson, Miss.	20.0	20.0	7.0	10.0
Vicksburg	20.0	20.0	7.0	10.5
Jack'ville, Fla.	20.0	20.0	8.0	12.0
Miami	21.0	21.0	8.0	13.5
Pensacola	18.0	18.0	8.0	12.0
Tampa	20.0	20.0	8.0	13.0
Lexington, Ky.	18.5	18.5	6.0	10.5
Covington	19.0	19.0	6.0	10.5
Louisville	17.0	17.0	6.0	9.0
Paducah	19.0	19.0	6.0	8.0

A third grade "Kyso Green" is sold at a price generally 2 cents below the price on the regular grade.

In addition to the state tax of 4 cents on gasoline, Montgomery has city and county tax of 3 cents on gasoline and one-half cent on kerosene. Kerosene prices in Georgia include 1-cent tax. In Florida, an inspection fee of 0.125 cent; in Alabama, an inspection fee of one-half cent on kerosene and one-fortieth cent on gasoline. To Pensacola, Montgomery and Birmingham state taxes add 1-cent tax. To Mobile state tax add 1-cent city tax. Dealers receive discount of 3 cents off tank wagon price throughout territory.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline Tank wagon	Gasoline Service station	Gasoline Incl'ds tax of	Kero. tank wagon
Denver, Colo.	16.0	19.0	5.0	12.5
Pueblo	16.0	19.0	5.0	12.5
Grand Jctn.	20.0	23.0	5.0	14.5
Casper, Wyo.	17.0	20.0	5.0	10.0
Cheyenne	16.0	19.0	5.0	11.5
Butte, Mont.	20.0	23.0	6.0	17.0
Billings	23.0	25.0	6.0	15.5
Great Falls	23.0	26.0	6.0	17.0
Helena	23.0	26.0	6.0	17.0
Salt Lake, Utah	17.0	20.0	5.0	16.0
Albu'que, N. M.	17.0	20.0	*7.0	14.0
Boise, Idaho	20.5	23.5	6.0	18.0
Twin Falls	20.5	23.5	6.0	18.0

*One-cent city tax.

Central South District

STANDARD OIL CO. (LOUISIANA)

	Gasoline Tank wagon	Gasoline Service station	Gasoline Incl'ds tax of	Kero. tank wagon
N. Orleans, La.	16.5	16.5	*7.0	†11.0
Baton Rouge	17.0	17.0	6.0	†11.0
Alexandria	14.0	14.0	7.0	†8.5
Lafayette	16.0	16.0	7.0	†10.0
Lake Charles	16.0	16.0	7.0	†11.0
Shreveport	16.0	16.0	6.0	†11.0
Knoxville, Tenn.	18.5	18.5	8.0	11.5
Memphis	19.0	19.0	8.0	9.0
Chattanooga	18.0	18.0	8.0	11.0
Nashville	18.5	18.5	8.0	11.0
Bristol	19.0	19.0	8.0	12.0
Lt. Rock, Ark.	16.5	16.5	7.0	9.0

*Includes city tax of 1 cent. †Louisiana kerosene prices include 1-cent state tax. New Orleans kerosene price also includes 1-cent city tax.

Two-cent discount off kerosene tank wagon price and 2½ cents off gasoline tank wagon price to dealer and commercial accounts.

Ohio

STANDARD OIL CO. (OHIO)*

	Gasoline Tank wagon	Gasoline Service station	Gasoline Incl'ds tax of	Kero. tank wagon
Ohio points	17.5	18.0	5.0	*12.0

*Two cents off on gasoline tank wagon to dealers and commercial accounts; 2½ cents off tank wagon on kerosene to dealers.

Nebraska

STANDARD OIL CO. (NEBRASKA)

	Gasoline Tank wagon	Gasoline Service station	Gasoline Incl'ds tax of	Kero. tank wagon
Omaha	17.9	18.9	5.0	10.25
McCook	19.0	19.0	5.0	11.75
Norfolk	18.75	18.75	5.0	10.75
N. Platte	19.0	19.5	5.0	11.5
Scottsbluff	19.5	20.0	5.0	11.25

Note—Dealers' discount allowed as follows: Red Crown Ethyl, 3 cents off station price; Red Crown, 2½ cents off normal service station price; Nebraska Blue (third grade), 1 cent off normal service station price.

New York and Part of New England District

STANDARD OIL CO. (NEW YORK)*

	Gasoline Tank wagon	Gasoline Service station	Gasoline Incl'ds tax of	Kero. tank wagon
Albany, N. Y.	16.0	17.0	4.0	9.0
New York	16.5	16.5	4.0	9.5
Buffalo	17.0	18.0	4.0	9.0
Rochester	17.0	18.0	4.0	9.0
Syracuse	17.0	18.0	4.0	9.5
Boston, Mass.	15.5	16.5	4.0	8.0
Augusta, Me.	18.5	19.5	4.0	9.0
Manch'tr, N. H.	15.5	19.5	5.0	8.0
Burlington, Vt.	19.0	20.0	5.0	8.5

*Discount schedule to commercial accounts as follows: At service stations, 1 cent per gallon; tank wagon deliveries up to 20,000 gallons monthly, 2 cents per gallon; 20,000 to 100,000 gallons, 2½ cents; 100,000 to 300,000 gallons, 3 cents; 300,000 gallons and up, 3½ cents.

Atlantic Coast District

STANDARD OIL CO. (NEW JERSEY)

	Gasoline Tank wagon	Gasoline Service station	Gasoline Incl'ds tax of	Kero. tank wagon
Atl'tic City, N. J.	15.7	16.7	4.0	11.2
Newark	15.0	16.0	4.0	8.5
Annapolis, Md.	16.3	17.3	5.0	10.0
Baltimore	15.7	16.7	5.0	8.0
Cumberland	17.2	18.2	5.0	11.7
Wash'g'n, D. C.	12.2	13.2	3.0	10.0
Danville, Va.	18.4	19.4	6.0	11.9
Norfolk	16.8	17.8	6.0	10.3
Petersburg	17.9	18.9	6.0	11.4
Richmond	17.2	18.2	6.0	10.7
Roanoke	18.4	18.4	6.0	11.9
Charles'n, W.Va.	17.1	18.1	5.0	11.4
Parkersburg	15.7	15.7	5.0	10.2
Wheeling	16.7	16.7	5.0	11.2
Charlotte, N. C.	20.0	21.0	7.0	12.5
Hickory	20.2	21.2	7.0	12.7
Mt. Airy	20.3	21.3	7.0	12.8
Raleigh	19.8	20.8	7.0	12.3
Salisbury	18.0	18.0	7.0	12.6
Charleston, S.C.	17.8	18.8	7.0	10.3
Columbia	19.7	20.7	7.0	12.2
Spartanburg	20.0	21.0	7.0	12.5

Two cents per gallon discount off tank wagon price of gasoline to dealers except Washington, D. C., and Baltimore, Md., where discount is 3 cents. Kerosene 1 cent off tank wagon for 25 gallons or more under contract except New Jersey.

Naphtha

	Tank Wagon	Tank Car
Oleum spirits	10.7	6.23
V.M.P. naphtha	12.7	7.23
Cleaners' naphtha	15.2	9.23
Stanisol	15.2	9.23

Tank wagon prices f.o.b. Chicago January 6, 1932. Each of above prices subject to discount of 1 cent per gallon for 150-gallon lots if covered by contracts.

Canada

IMPERIAL OIL, LTD.

Imperial 3-Star Gasoline

	Gasoline Tank wagon	Gasoline Service station	Gasoline Incl'ds tax of	Kero. tank wagon
Hamilton, Ont.	24.0	27.0	6.0	16.5
Toronto, Ont.	24.0	27.0	6.0	17.5
Brandon, Man.	30.5	34.0	7.0	20.5
Winnipeg, Man.	27.5	31.0	7.0	17.5
Regina, Sask.	30.5	34.5	6.0	21.5
Saskatoon, Sask.	32.5	36.5	6.0	23.5
Edmonton, Alta.	30.5	34.0	5.0	22.5
Calgary, Alta.	27.0	30.5	5.0	19.0
Vancover, B.C.	28.0	31.0	7.0	24.0
Montreal, Que.	23.5	26.5	6.0	15.0
St. John, N.B.	27.0	31.0	7.0	22.0
Halifax, N.S.	26.0	30.0	6.0	22.0

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA*

	Gasoline Tank truck†	Gasoline Posted retail	Gasoline Incl'ds tax of	Kero. tank wagon
Fresno	19.5	18.5	4.0	17.0
San Francisco	19.0	18.0	4.0	16.5
Los Angeles	18.5	17.5	4.0	16.5
Reno, Nev.	23.0	23.0	5.0	19.0
Portland, Ore.	16.9	15.9	5.0	16.5
Seattle, Wash.	17.9	16.9	6.0	16.5
Tacoma	17.9	16.9	6.0	16.5
Spokane	20.9	19.9	6.0	20.5
Phoenix, Ariz.	19.5	21.5	6.0	20.6

*Retail prices posted by Standard Stations, Inc., a subsidiary.

†Above prices are at company's plant or depots as company does not operate stations. A 4-cent per gallon discount is given dealers and customers taking tank wagon lots except in Phoenix where the discount is 1 cent.

Pennsylvania-Delaware and Part of New England

ATLANTIC REFINING CO.

	Gasoline Tank wagon	Gasoline Service station	Gasoline Incl'ds tax of	Kero. tank wagon
Pittsburgh, Pa.	16.5	17.5	4.0	10.0
Philadelphia	16.0	17.0	4.0	10.0
Scranton	16.5	17.5	4.0	10.0
Allentown	16.5	17.5	4.0	10.0
Altoona	16.5	17.5	4.0	10.0
Erie	16.5	17.5	4.0	10.0
Dover, Del.	16.5	17.5	4.0	10.0
Wilmington	16.5	17.5	4.0	9.0
Springf'd, Mass.	16.5	17.5	4.0	8.0
Worcester	16.5	17.5	4.0	8.0
Boston	15.5	16.5	4.0	8.0
Providence, R.I.	14.5	15.5	3.0	8.0
Hartford, Conn.	15.5	16.5	3.0	8.0
New Haven	15.5	16.5	3.0	8.0

Discount schedule effective November 1, 1932. In Delaware and Pennsylvania, 2 cents off station price on purchases of 2,000 gallons or more per month, in remainder of territory 1 cent. Wholesale discount 2½ cents per gallon on monthly deliveries of 20,000 to 100,000 gallons, 3 cents on 100,000 to 200,000 and 3½ cents on more than 300,000 gallons.

TANK WAGON CHANGES

(Regular Grade Gasoline and Kerosene)

Standard Oil Co. of New Jersey effective November 19 reduced gasoline tank wagon and service station prices 2 cents at Washington, D. C.

Standard Oil Co. of California and Standard Stations, Inc., reduced gasoline tank wagon and service station prices 3.1 cents at Portland, Ore., Seattle, Tacoma and Spokane, Wash., on November 24.

Standard Oil Co. of Kentucky advanced gasoline tank wagon and service station prices 1 cent at Jacksonville and Miami, Fla., November 14.

Standard Oil Co. (Indiana) effective November 18 reduced gasoline tank wagon price 2 cents at Evansville, Ind.; effective November 17 reduced gasoline tank wagon price 2 cents at St. Louis, Mo.

Standard Oil Co. of Louisiana effective November 23 reduced gasoline tank wagon and service station prices one-half cent at Chattanooga, Tenn.; effective November 25 reduced gasoline tank wagon price 1 cent at Lafayette, La., and gasoline tank wagon and service station prices 2 cents at Lake Charles, La.; effective November 23 reduced gasoline tank wagon and service station prices 2 cents at Lafayette, La.; effective November 24 advanced gasoline tank wagon and service station prices 1 cent at Memphis, Tenn.; effective November 23 reduced kerosene tank wagon price 1 cent at New Orleans, La.

Standard Oil Co. (Indiana), effective November 29, posted higher gasoline tank wagon and station prices throughout Michigan, returning to the schedules as of August 27. All cut-price points have been advanced 1 cent on all grades and at normal priced points the advance was one-half cent.

CRUDE OIL PRICE CHANGES

The Eldorado Refining Co. of Eldorado, Kans., which met the Sinclair Prairie Oil Marketing Co.'s 12-cent advance established October 15 in Kansas, reduced its prices to the old Stanolind Crude Oil Purchasing Co.'s price schedule of April 11, which ranges from 76 cents to $1 per barrel. The change was made effective on November 23.

Anderson & Prichard, Inc., which met the Sinclair Prairie Oil Marketing Co.'s 12-cent advance on October 15 in Oklahoma, resumed the old Stanolind Crude Oil Purchasing Co.'s Oklahoma price schedule on November 22, thus reducing its price 12 cents per barrel in the Cement Field and in the Duncan, Walters and Comanche Fields in southern Oklahoma. The Col-Tex Refining Co., an Anderson & Prichard company, reduced its prices in West Texas to 65 cents per barrel, thus falling back on the old April 11 price schedule of the Humble Oil & Refining Co. This was also effective on November 22.

NEWS FOR SALES DEPARTMENTS

Answer Contention of States Relative to Gasoline Taxes

WASHINGTON, D. C., Nov. 26.—Edward Martin, state treasurer of Pennsylvania, when addressing the National Association of State Auditors, Comptrollers and Treasurers at their meeting in Richmond, Va., declared that states should have exclusive right to levy a gasoline tax. At the U. S. Treasury Department it was stated this week that an inquiry has been begun on this subject by a committee of the House of Representatives. Some statement may be forthcoming at an early day after the meeting of Congress.

Secretary Mills of the Treasury Department, before the passage of the Federal gasoline tax, pointed out that adding state taxes to Federal taxes, especially in the case of tobacco and tobacco products, has affected the revenue of the Federal government and the same reasoning would apply to taxation of many other products.

During October the Federal Government collected over $14,000,000 by means of the gasoline tax, exceeding the estimate of the Treasury Department which was $12,500,000. The Treasury Department will be loath to give up the gasoline tax so long as the present deficiency exists.

The largest revenue producer among new excise and stamp taxes under the Revenue Act of 1932 during the five months that law has been in operation is the Federal gasoline tax. It has been one of the three new taxes that has equalled the estimates of the Secretary of the Treasury.—C.E.K.

Better Trend in Kerosene Shipments Than Gasoline

Inshipments of gasoline and kerosene, according to figures just released for Wisconsin, Minnesota, South Dakota and North Dakota, were considerably lower for gasoline in the four states in the first nine months of 1932 as compared with the first nine months of 1931. Kerosene inshipments, on the contrary, were higher in two of the states, Minnesota and North Dakota, and showed a moderate lowering in Wisconsin and South Dakota.

Gasoline and kerosene inshipments for the two nine-month periods in gallons in the four states are reported as follows:

	Gasoline	
	1932	1931
Minnesota	308,661,455	339,494,848
South Dakota	87,585,237	112,603,550
Wisconsin	316,117,450	357,189,750
North Dakota	82,278,143	93,399,844

	Kerosene	
	1932	1931
Minnesota	24,493,440	23,493,440
South Dakota	7,848,551	8,710,014
Wisconsin	23,133,450	24,155,150
North Dakota	10,042,224	6,687,263

SINCLAIR TANKER OPERATIONS

NEW YORK, Nov. 28.—Sinclair Navigation Co., marine subsidiary of the Consolidated Oil Corp., shows more than 600,000 miles traveled and more than 20,000,000 bbls. of petroleum and refined products transported by its tankers during the past year.

To move this amount of oil by rail would require a train of tank cars 1,000 miles long, the report states.

The Sinclair tanker fleet, which comprises 13 ships aggregating 120,000 d.w. tons, sails to 15 regular ports of call and makes frequent visits to 20 other ports, with all of the tankers continuously in service, the report concludes.

40,000 Domestic Oil Burners in Chicago With Steady Increase in Prospect

By ROBERT C. CONINE

CHICAGO, Nov. 24.—There are approximately 40,000 domestic oil burners in operation in Chicago district, and engineers' estimates on their annual consumption of distillate and heavier fuels (from October 1 to June 1) range from 80,000,000 to 100,000,000 gallons. These figures are based on an average requirement for each burner of 2,000 gallons and 2,500 gallons per season. Economic conditions, according to oil burner manufacturers in Chicago, are responsible for a drop of 10 per cent in installations in 1931, and a further drop to 20 per cent of the 1929 level in 1932. However, these manufacturers report that more burners are now sold on inquiries than ever before, indicating greater public interest. Another encouraging fact is the acceptance of oil burners as merchandise in the larger department stores such as the Fair, Mandel Brothers, Sears-Roebuck and Montgomery Ward, and the interest shown by other large stores. This is significant in view of the fact that department stores have a reputation for stocking only "going merchandise" and never taking the role of pioneers.

W. A. Matheson, president of the Oil Burner Manufacturing Association in Chicago, says that the oil burner business is just emerging from the pioneering stage. The first 10 per cent of saturation is considered the stage of inception, and it is pointed out that while 21,000,000 homes in the country are wired for electricity, about 14,000,000 are available to the oil burner market. This figure is reduced to 10,000,000 by geographical considerations controlling competitive prices of natural gas and coal. There are about 1,000,000 domestic oil burners in use in the United States, and this is the first 10 per cent of saturation. When the saturation point has reached 50 to 55 per cent, the salesmen will have to work on the "hard buyers" and then the business curve starts its real downward movement.

Manufacturers report that they have scores of prospects who are waiting to see how their neighbors' oil burners hold up. It is pointed out that good oil burners, like good citizens, are generally unnoticed until they go wrong. They do their work quietly and efficiently and so hide their light under a bushel. However, the elimination of soot in the home, the automatic operation features which save time and fuel, are great selling points. It is when the actual operations of oil burning and coal burning heating plants are compared that the lower cost of oil use becomes apparent in the domestic field. The oil burner provides an even temperature which may be more closely regulated, and at least an hour a day is saved through the elimination of manual stoking and coal fire tending. There are no ashes to be carried away, nor clinkers to be removed, and you can leave the burner for a week in the winter time without piling up trouble. The distillate and fuel oil tank wagon prices are by no means a drawback, especially during the past two years.

There appears to be a decided trend away from burners which can use only the lightest distillates. The most favored fuel is a 28-30 zero fuel oil, with the higher and lower grades in less demand as they move farther from the 28-30 grade. Practically all of the installations atomize the fuel by air injection. Superheated steam is not used in domestic burners, although some of the larger heating plants in apartment buildings take an 18-20 gravity fuel oil.

Few oil burners installed before 1925 are able to use a fuel of less than 26-28 gravity. The 1925, 1926 and 1927 installations generally call for a 38-40 distillate, with a small proportion able to utilize 32-36 gravity distillates. On June 1, 1925, there were 25,000 oil burners in operation in Chicago, and a year later this

(Continued on Page 30)

Federal Court Rules on Refiner-Jobber Contract

The District Court of the United States, northern district of Illinois, eastern division, has rendered a decision on long-term contracts in the case of the Lakeside Petroleum Co. vs. United States for the purchase of oil.

This decision by District Judge Woodward holds that a person who enters into contracts of purchase and sale of oil is not thereby engaged in "contracting operations" within the meaning of Article 36 of Income Tax Regulations 45, which allows persons engaged in contracting operations who have contracts running for more than a year to prepare returns on a basis of completed work.

The same decision also states that where a person engaged in buying and selling oil has on hand at the end of 1919 a number of uncompleted contracts for the purchase and sale of oil and in 1920 one of such contracts for the purchase of oil is breached by the vendor and in order to complete some of such contracts of sale he is obliged to purchase oil in the open market at a higher price than specified in the breached contract, no part of the resulting loss is deductible in 1919.

In this case the finding was in favor of the government.

Illinois Supreme Court Rules Against Curb Pump

CHICAGO, Nov. 26.—Protesters against curb gasoline pumps have been rewarded in their long fight by a recent decision of the Illinois Supreme Court which rules against a Chicago ordinance authorizing the installation and operation of these pumps. The high court holds that cities in the State have no authority to permit the operation of curb pumps on the public highways. Five years ago the Auto Associated Trades of this city were protesting to the municipal government against the installation of curb pumps.

The association pointed out that the curb operators did not have to pay the usual distributor's license fees, and so held an unfair advantage over regular dealers. In December of 1929, the question of permitting curb pumps was revived through a recommendation of the gas, oil and electric light committee of the common council that such pumps be permitted on payment of a fee of $100 each, this amount to be paid annually as a license fee. It was then pointed out that a recent decision had been handed down from the Supreme Court limiting the cost of license fees to a point not exceeding the cost of issuing the license. This decision, it was thought, might apply to the curb pump fees.

Thirty-Four States Show Decreases In Motor Fuel Demand

Gasoline consumption decreased in 34 states and increased in 14 states and the District of Columbia the first six months of this year compared with the same period in 1931, according to a final report released this week by the Bureau of Public Roads of the U. S. Department of Agriculture. For the 48 states and the District of Columbia the indicated gasoline consumption based on gasoline tax collections totaled 6,856,692,885 gallons which compares with 7,133,744,870 gallons for the same period in 1931. The first half of this year the state collections totaled $247,896,625.

From the percentage standpoint the greatest reduction in gasoline consumption the first six months of this year was in Montana where a decline of 17.9 per cent is shown, followed by Idaho, another Rocky Mountain state, with a decrease of 15.2 per cent. The decrease in Tennessee was 14.5 per cent and Arkansas 14.4 per cent.

In the matter of increases the District of Columbia leads with a gain of 13.7 per cent the first half of 1932. Rhode Island showed a 9.7 per cent increase and Maryland 7.7 per cent.

The accuracy of the data given in the accompanying table, including the comparisons with last year, is limited by the fact that refunds and exemptions allowed within the states vary widely. It is also stated that the comparisons are inaccurate due to the fact that less gasoline is evading the tax payments than last year while in some other states it is said the decreases shown are in part due to increases in gasoline tax evasion the first half of this year.

Table showing net gallons of gasoline the first six months of 1932 compared with same period in 1931:

State—	First six months— 1932	1931
Alabama	69,195,092	—13.5
Arizona	30,375,673	— 8.5
Arkansas	46,272,890	—14.4
California	576,411,673	— 6.3
Colorado	70,410,950	— 7.8
Connecticut	107,565,871	2.7
Delaware	17,313,812	6.1
Florida	111,684,584	—12.1
Georgia	99,405,735	— 6.3
Idaho	20,559,763	—15.2
Illinois	439,599,596	— 1.6
Indiana	206,128,008	— 8.1
Iowa	152,629,411	—13.6
Kansas	127,044,976	4.5
Kentucky	77,061,657	— 4.9
Louisiana	81,979,381	— 8.1
Maine	40,386,357	4.6
Maryland	87,363,004	7.7
Massachusetts	253,780,733	2.4
Michigan	*326,269,033	— 2.1
Minnesota	161,668,156	— 6.0
Mississippi	48,206,242	—13.1
Missouri	218,825,602	0.6
Montana	23,330,776	—17.9
Nebraska	98,529,349	—10.8
Nevada	8,662,999	— 4.7
New Hampshire	24,409,740	— 5.9
New Jersey	264,911,155	0.4
New Mexico	23,530,718	— 6.1
New York	702,218,669	0.9
North Carolina	113,591,910	— 0.1
North Dakota	25,745,588	— 3.9
Ohio	426,711,128	— 3.3
Oklahoma	119,474,997	—11.0
Oregon	71,481,728	— 7.9
Pennsylvania	490,223,049	3.6
Rhode Island	42,906,794	9.7
South Carolina	50,902,841	—11.9
South Dakota	32,791,132	1.2
Tennessee	84,946,990	—14.5
Texas	335,156,663	—11.5
Utah	26,173,360	— 9.0
Vermont	18,799,543	0.1
Virginia	103,734,044	1.1
Washington	109,196,702	— 7.1
West Virginia	56,817,433	— 3.9
Wisconsin	166,402,229	—11.1
Wyoming	14,076,557	—10.3
District of Columbia	49,329,553	13.7
Total	6,856,692,885	—†3.9

*Excludes 430,949 gallons taxed but used by airplanes. †Based on revised semiannual total for 1931 of 7,133,744,870 gallons.

NEWS FOR PETROLEUM REFINERS

Earhart Resigns as Chief Executive of White Star Company

Harry Boyd Earhart, chairman of the board of White Star Refining Co., has announced his coming retirement from the active management of that company on December 31. Mr. Earhart founded the White Star Refining Co. at Detroit, Mich., in 1910, since which time he has served continuously as the company's chief executive officer. Under his leader-

H. B. EARHART

ship, White Star developed into one of the largest and most successful independent refiners and marketers of petroleum products in America.

In 1930 the company affiliated with Vacuum Oil Co., and through the subsequent union of Vacuum and Socony, now operates as a Socony-Vacuum unit.

Mr. Earhart's decision to retire has been largely influenced by his concept that having reasonably provided for his own future, he should now give a larger responsibility and opportunity to his associates. In addition to this, in co-operation with a small informal group of chief executives from other industries, Mr. Earhart has for some time past been keenly interested in making a study of some of the more important social and governmental problems confronting the nation.

Believing that the final solution of these problems will be reached largely in the field of economics, it is Mr. Earhart's hope that, relieved from his present heavy managerial responsibilities, he may have a larger opportunity to give to their consideration that thought and time which will be required of men of business training and experience if a final solution of these problems is to be found.

Mr. Earhart's retirement will automatically make President H. A. Coffin chief executive of the company. Announcement is also made of the appointment of C. B. McCollough as general manager, H. M. Sullivan as assistant general manager, and Richard Earhart as operating manager. In addition to his present duties as head of the industrial department, L. T. Morrow will assume the direction of bulk sales and domestic fuel department.

Simrall Refinery in Canada Is Designed to Give Flexibility in Operation

The Simrall Refining Corp., Ltd., for several months has operated at Amhertsburg, Ontario, a refinery designed to meet the needs of a concern which has recently entered the Canadian market. The plant at present consists of a topping unit with a crude oil capacity of 2,500 bbls. daily. The corporation is now planning on supplementing the present equipment with a cracking unit to handle the heavy fractions from the present skimming operations.

The distillation unit was designed to secure compactness and operating efficiency. The principal equipment consists of a tubular heater, a bubble tower fractionator and closed heat exchangers and condensers. The plant includes agitators and other equipment for chemically treating light oils. Adequate tankage has been provided for the refinery products and large crude oil storage is to be built.

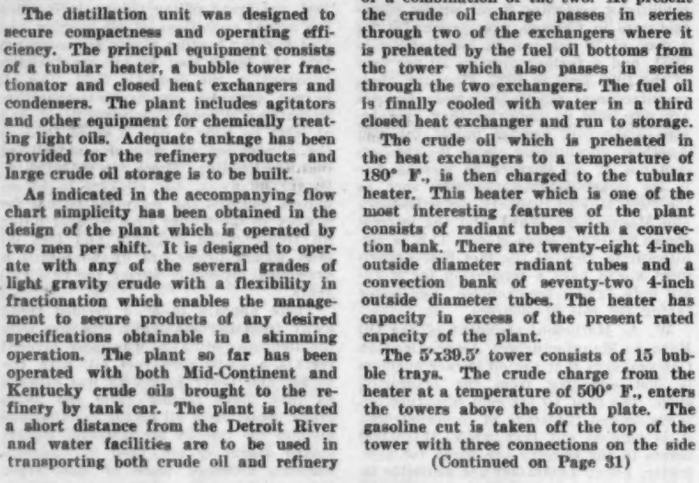
As indicated in the accompanying flow chart simplicity has been obtained in the design of the plant which is operated by two men per shift. It is designed to operate with any of the several grades of light gravity crude with a flexibility in fractionation which enables the management to secure products of any desired specifications obtainable in a skimming operation. The plant so far has been operated with both Mid-Continent and Kentucky crude oils brought to the refinery by tank car. The plant is located a short distance from the Detroit River and water facilities are to be used in transporting both crude oil and refinery products as is done by a majority of the refinery operators in Canada.

The operation illustrated in the accompanying flow chart varies somewhat with the crude oil and the products to be obtained. The crude oil from storage first passes through heat exchangers. These exchangers are 12 inches in diameter and 14 feet long, each containing 214 square feet, and are connected so that they can be used in series or parallel or a combination of the two. At present the crude oil charge passes in series through two of the exchangers where it is preheated by the fuel oil bottoms from the tower which also passes in series through the two exchangers. The fuel oil is finally cooled with water in a third closed heat exchanger and run to storage.

The crude oil which is preheated in the heat exchangers to a temperature of 180° F., is then charged to the tubular heater. This heater which is one of the most interesting features of the plant consists of radiant tubes with a convection bank. There are twenty-eight 4-inch outside diameter radiant tubes and a convection bank of seventy-two 4-inch outside diameter tubes. The heater has capacity in excess of the present rated capacity of the plant.

The 5'x39.5' tower consists of 15 bubble trays. The crude charge from the heater at a temperature of 500° F., enters the towers above the fourth plate. The gasoline cut is taken off the top of the tower with three connections on the side

(Continued on Page 31)



View showing crude distillation unit and other features of Amhertsburg, Ont., refinery of Simrall Refining Co., Ltd.

W.P.R.A. PROGRAM COMMITTEE

George D. Locke, president of the Western Petroleum Refiners Association, has appointed the following committee to arrange program for the annual meeting to be held at Arlington Hotel, Hot Springs, Mo., April 5 and 6: P. M. Miskell, Empire Oil & Refining Co.; R. R. Irwin, White Eagle Oil Corp., and H. T. Ashton, Lubrite Refining Co.

SERVICE STATION ON HIGHWAY

The Indiana State Highway Commission has ruled gasoline service stations off the right of way of state roads. The service stations, the commission holds, interfere with traffic and constitute a menace. The commission also bars the stringing of lights over the highways, and prohibits the use of red flashing lights.

White Eagle Plans To Build Gasoline Line From Refinery

KANSAS CITY, Mo., Nov. 26.—The White Eagle Oil Corp. of this city is making preliminary surveys between its refinery at Augusta, Kans., and Greater Kansas City looking toward the construction of a gasoline pipe line. The corporation is one of the largest distributors in Kansas City and also has marketing facilities in states to the north.

The distance from the Augusta refinery to Kansas City is about 125 miles and a 6-inch line is under consideration. The refinery has a crude oil capacity of 15,000 bbls. daily. One report stated that the line would continue on to St. Louis where it would connect to the refinery of the Lubrite Refining Co. Both the Lubrite and White Eagle companies are subsidiaries of the Socony-Vacuum Corp. Recently the marketing territories have been changed so there is very little overlapping in the sale of products. The line would be built so that both the White Eagle and Lubrite could use its transportation facilities. The Lubrite at present secures its crude oil from the Mid-Continent through a pipe line not owned by the Socony-Vacuum Corp.

R. R. Irwin, president of the White Eagle corporation, in regard to the line said: "Reports that we are ready to lay the pipe line are premature. It is true, however, that we are studying costs and construction data on such a project. It has not yet been decided to what point the line will extend, if it eventually is constructed."

May Build Refinery and Pipe Line for Black Oil

CASPER, Wyo., Nov. 26.—According to reports from Lander, Wyo., engineers of the Continental Oil Co. were in that section recently making a survey of the proposed route for a pipe line to be laid from the Maverick Springs Field to a railhead either at Shoshoni or Riverton. It is understood that the Continental company has announced that it has not come to a final decision in regard to the construction of the line.

The company owns a tank farm between Shoshoni and Bonneville and thus would have access to both the Burlington and Northwestern shipping facilities. The line would probably be of 6-inch pipe and the estimated cost would be in the neighborhood of $130,000. Such a pipe line was surveyed once before when the cost was estimated at $1,000,000. It is stated that the plans later may also include a refinery between Shoshoni and Bonneville. The Maverick Field produces black oil. It is believed that there is anywhere between 2,500 to 3,000 bbls. daily of production shut in at the field. The wells were drilled in about 10 years ago and have never been placed on production.

A.C.S. PROGRAM

The petroleum group of the Oklahoma section of the American Petroleum Institute has prepared the following program for its meeting in Ponca City December 3:

3 p.m.—Inspection trips, Continental or Empire refineries.

6 p.m.—Dinner, Conoco Club.

7:30 p.m.—Program of three papers:

L. L. Davis, "Control Methods in Lubricating Oil Processing."

Paul Zurcher, "Removal and Reclamation of Sulphur from Gases."

R. M. Ginter, "Formation of Petroleum from Sugars." (A review of Hackford's research.)

NATURAL GASOLINE MANUFACTURE

Forecast Greater Use of Natural as Direct Motor Fuel

Estimates of the quantity of natural gasoline to be sold direct as motor fuel indicate that an increase will be shown for the next six months compared to that sold for the same period a year ago but that less natural gasoline will move to refineries.

These estimates were prepared by the Voluntary Committee on Petroleum Economics and for the Federal Oil Conservation Board substantially the same conclusions were arrived at in the report of the American Petroleum Institute statistical committee. An analysis of the voluntary committee's report shows 4,950,000 bbls. of natural gasoline are expected to be sold as motor fuel from October 1, 1932, to March 31, 1933. This compares with 4,058,000 bbls. in the same period for the past year. This represents an increase of 892,000 bbls. for the period or approximates 800 cars per month. No attempt is made to show what portion of this has been estimated as going to jobbers and what is to move in the account of refiners who blend at consuming points. Thus, it is not possible to judge what the attitude of the committee may have been toward the success of natural gasoline manufacturers selling the jobbers direct.

The increase in jobber outlets is more than equalized, however, by the lesser receipts of refinery demands estimated by the committee. The estimated demands of refiners over the present six months' period is established at 11,850,000 bbls. compared with an actual of 15,040,000 bbls. a year ago, a drop in the estimated demand of 3,190,000 bbls., or approximately 3,100 cars a month. Taking into account the increase of the 800 cars per month estimated to move to jobbers and a decrease of 3,100 cars moving to refiners, there is a difference of 2,300 cars per month to be accounted for.

Natural gasoline manufacturers in the Mid-Continent feel they have already reduced their operations to the minimum and in September the Bureau of Mines showed that the month's production was down to 2,793,000 bbls. This is the approximate rate at which the committee suggests operations be held throughout the next six months in order to balance the supply with demands. The actual estimated demand for natural gasoline, arrived at by adding the 4,950,000 bbls. moving to jobbers to the 11,850,000 bbls. moving to refiners and dividing this total by 6, indicates that the average consumption per month will approximate 2,800,000 bbls. This figure agrees closely with the September output.

In estimating the part natural gasoline is to play in the output of motor fuel for the next six months it is interesting to note that the committee estimates less straightrun and less cracked gasoline will be produced also. The detailed report (The Oil and Gas Journal, November 17, page 22) shows that the committee estimates the following sources of motor fuel will supply the needs over the coming six months in question.

SOURCE OF MOTOR FUEL
(Barrels)

	Est. 6 months	
	Oct. 1, to Mar. 31, 1932	Oct. 1, to Mar. 31, 1933
Natural gasoline blended at refineries	11,350,000	15,040,000
Natural gasoline moving as motor fuel	4,950,000	4,058,000
Cracked gasoline	78,700,000	87,052,000
Straightrun gasoline	83,690,000	103,042,000
Imports of motor fuel	470,000	6,075,000
Benzol	480,000	756,000
Total	185,140,000	216,022,000

Trend Toward High Motor Fuel Vapor Pressures Encourages Manufacturers

Recent developments of importance to the natural gasoline manufacturers of the Mid-Continent have caused them to take a much more optimistic attitude toward the future of their market, particularly during the next four months. The principal development is the growing realization that motor fuels of higher vapor pressure may be more satisfactorily used than those generally sold at present.

Official recognition is expected to be given this fact as the result of work under way in the Bureau of Standards and it is also apparent that refiners are adopting a more receptive attitude toward blending to "improve balanced volatility."

Work in the laboratories of the Bureau of Standards has progressed far enough and subsequent road tests have indicated that motor fuels having the following vapor pressures may be satisfactorily used under the respective atmospheric temperatures:

Atmospheric Temp. °F.	Vapor pressure of motor fuel: In car (lbs.)	At refinery (lbs.)
Below 100	8	9
Below 80	11	12
Below 60	15	16

Should this table of suggested specifications become the accepted standard and lead to a revision of Federal and state specifications, natural gasoline will benefit.

All of the advantages of such a revision of specifications will not fall to natural gasoline however, as refiners have increased the supply of light fractions within their own plants by the increased production of wet gas and the improved vapor recovery systems. In fact, many refiners are now overbalanced to a small degree by producing an excess of propane and butane at their cracking plants. Refiners in general have not viewed the practice of stabilization in the same manner as the natural gasoline manufacturer. The refiner has been accustomed to judging results in his plant by reporting the yield of gasoline per barrel of crude run. As improvements have been made in the refinery equipment and operation the yield figure was gradually increased. The vapor recovery plant has become an important factor in raising that yield. Because of this rather basic idea, some large refiners have favored producing a more volatile refinery natural gasoline than they would be willing to purchase from the outside.

Because of this tendency on the part of refiners, they are probably just as anxious that the vapor pressure specification be raised as the natural gasoline manufacturer.

However, if a more liberal attitude is generally assumed regarding the vapor pressure specifications natural gasoline manufacturers will benefit in a direct manner and somewhat independent of refiners. It is certain that raising the vapor pressure specifications will not cause the refiners to take less natural gasoline from manufacturers. The direct benefit to natural gasoline manufacturers will come to those who are marketing their product as a motor fuel and this in turn will improve the market for the balance.

Approximately 35 per cent of the natural gasoline manufactured in the Mid-Continent enters the spot market as the product of companies not affiliated with refining organizations. Thus, one-third of the natural gasoline manufactured in the Mid-Continent may be considered as potential motor fuel, to be sold to jobbers direct and in direct competition with refinery gasoline if conditions within the natural gasoline market warrants such a step to be taken.

F. L. Chase, of the Lone Star Gasoline Co., discussing G. G. Oberfell's paper (Phillips Petroleum Co.) before the refining division during the A.P.I. convention at Houston, Tex., gave a rather clear word picture of what these independent manufacturers propose to do if the natural gasoline market is unduly depressed. In effect he stated that unless the price on the 26-70 grade of natural gasoline is 70 per cent or more of the market price on the middle octane refinery motor grade of gasoline, these natural gasoline manufacturers will find it to their advantage to stabilize their product down to a motor fuel and offer it direct to jobbers.

The soundness of this idea cannot be questioned if the study is concentrated on certain modern natural gasoline plants, and the market investigated during the colder months of the year. Several large integrated companies have sold a part of their natural gasoline production direct to jobbers in the past two years and many more of them have witnessed public acceptance of the gasoline of those companies who have identified themselves with "high test" products through the increased use of natural gasoline. The correctness of the idea of supplying adequate volatility is no longer a question, it simply resolves itself into one of how far the "volatility" may be safely extended.

Within the past week, the Skelly Oil Co. has announced a motor fuel which is said to be a new "high test" product. While no statement is made regarding the increased use of natural gasoline in the blend, it is indicated that the straightrun, cracked and natural gasoline are blended to meet local atmospheric conditions and at this period of the year, the gravity of the new gasoline is to be high enough for one on the outside to suspect a liberal use of a well stabilized natural gasoline. Also, there have been increased purchases of natural gasoline in the Mid-Continent market over the past week in the accounts of several participants in the Great Lakes Pipe Line Co. These purchases have not been large but indicate that more than the customary quantity of natural gasoline will be blended into the refinery gasoline to be sold in the northern territory.

Blending facilities have been provided at several points along the line, particularly in Des Moines, Kansas City and Chicago and the practice of shipping natural gasoline by tank car to these points is expected to be greatly expanded.

The difference in cost between the refinery gasoline at the blending plant and the delivered cost of the stabilized natural gasoline must necessarily determine the extent to which this will be practiced. Even under the depressed condition of the natural gasoline market there is not a sufficient margin of profit to make it especially attractive but, the practice must also take into consideration any improvement in quality.

Thus, the trend of prices on natural gasoline depends on the course of the refinery motor fuel market and too many factors exist to offer clarity in predicting the trend of these prices over the winter but one thing does seem more certain than a year ago, and that is that there will be a gradually diminishing price differential over the next four months and a much smaller differential throughout 1933 than during 1932.

To Codify Methods of Sampling, Measuring and Testing Wet Gas

A committee has been authorized by the production division of the American Petroleum Institute to codify the accepted methods of sampling, measuring and testing natural gas and natural gasoline.

The suggestion that the various methods of sampling, measuring and testing be reviewed by representatives of the various branches of the oil industry was made more than a year ago and Carl Young, secretary of the division of production for the A.P.I. has been gathering data from individuals and associations for the purpose of presenting the problem to a committee. During the annual A.P.I. meeting in Houston in the past week a report of the progress of the work to date was assembled and the opinions of various interested associations was included in the report presented to Charles F. Roeser, chairman of the production division of the A.P.I.

The decision to codify the field and laboratory sampling and testing procedures involves practices already in operation as promulgated by such bodies as the Natural Gasoline Association of America, California Natural Gasoline Association, American Gas Association and the American Society for Testing Materials.

Just what the committee will undertake to do after it is appointed is problematical. One course would be to simply assemble all of the accepted test procedures under one cover. The other would be to correlate the work of all interested bodies and evolve one method of sampling gas, one for determining its gasoline content, one distillation procedure for the natural gasoline, etc.

The difficulty appears to be in correlating the practices of California natural gas producers and natural gasoline plant operators and those of producers and gasoline plant operators in the Mid-Continent. This is particularly true in the case of determining the gasoline content of a wet gas. Members of the California Natural Gasoline Association have favored the use of data derived from a fractional distillation of the gasoline recovered as the basis for evaluating the gas for plant processing. The Mid-Continent operators have favored the use of the gravity balance. Each method has been in use long enough in its respective area and contracts have been made to such an extent that many difficulties are immediately presented when any modification is suggested.

Local conditions are enough different to make it very difficult to propose either method as a universal standard, and the simplest way to settle that particular question would be to include both procedures as acceptable as each is recognized as equitable for both producers and plant operators in the respective fields they serve.

There is little overlapping in the intests of the A.S.T.M. and the test procedures promulgated by the different associations. This is due to the fact that the A.S.T.M. has been looked upon as an authoritative group whose support and acceptance of idea has been sought. The adoption of the distillation test for natural gasoline as a tentative A.S.T.M. standard is an example of the co-operative work of the interested groups.

In fact, those methods which have been adopted by the A.S.T.M. have been developed in the laboratories of the natural gasoline industry. There should be little difficulty in correlating the work of that body with that of the industry.

40,000 Domestic Oil Burners in Chicago

(Continued from Page 27)

number was increased to 30,000. Since then more than 10,000 new installations have been placed in operation and it is among these later additions that efforts have been made to lower the cost of maintenance by utilizing a lower priced fuel oil.

Among the oil burner manufacturers there is an improved competitive spirit of all.

The greatest trouble now confronting the oil burner manufacturers is in connection with the fuels being sold in Chicago from the tank wagon. The number of complaints by owners of oil heating which is proving of betterment to the business. In former years salesmen would run down their competitors' equipment with the statement that so and so's burner could burn only the highest priced oils. The public was beginning to form the opinion that oil burners were inflexible and costly in operation. While this continues in a minor degree, the manufacturers for the most part are working harmoniously and their association is functioning efficiently in the interests equipment has increased considerably. Many of the oils taken from the customers' tanks leave a heavy deposit of sediment when placed on a blotter, and in a number of cases the flashpoint is much too high for efficient operation. In other cases the fuel is a poorly blended product which stratifies. The manufacturers say that if the distributors of heating oils do not correct this situation they will be forced to recommend to oil burner owners that they use only the oils of certain responsible companies. Two sets of specifications taken from two of the oil companies whose products are approved show the following characteristics:

SPECIFICATIONS OF FUEL PRODUCTS

Gravity	37.0	26.5	18.0	10.0	3.3
Flash	155	195	200	260	300
Pour	—0*	—0	0	0	0
B.s.&w.	0	0.1	0.25	0.5	0.3
Sulphur	0.25	0.6	0.96	1.0	1.25
S. Univ. @ 70°	37	45	49	...	...
S. Univ. @ 100°	32	36	43	376	...
S. Furol @ 100°	...	...	...	92	1,400
S. Furol @ 122°	...	...	...	21	175
B.t.u./gal.	137,000	141,000	147,000	152,000	158,000

Gravity	11–14	10–14	18–22	28–30	32–36	36–40
Flash	270	260	200	185	180	170
Pour	0	0	0	—0	—0	—0
B.t.u./gal.	151,000	152,000	147,000	140,000	138,000	136,000
S. Univ. @ 100°	150	—750	—200	50	...	...
Sulphur	0.75	0.75	0.75	0.75	0.50	0.25
Color	...	...	...	...	straw	straw

Causes of fires in the use of domestic oil burners were outlined in the August 2, 1928, issue of The Oil and Gas Journal. In the order of their importance these causes are: Failure of automatic shut-off valve, loose connections and leaky piping, defective oil burner, backfires, carbonization, absence of or extinguishment of pilot light, miscellaneous, careless operation, absence of automatic shut-off valve, imperfect combustion, unknown, dirty flues, electric short circuit, overheated furnaces and flues.

Dividend Distributions by Standard Oil Group

Dividend distributions by the Standard Oil group of companies for 1932 are estimated at $181,050,895, compared with $220,739,182 in 1931, a decline of $39,688,287 according to records compiled by Carl H. Pforzheimer & Co. Disbursements for the fourth quarter are estimated at $44,112,501, compared with $43,858,468 in the third quarter and $48,530,230 in the fourth quarter of 1931.

Three of the leading companies accounted for the greater part of the decline in payments during 1932. Total dividend payments of the Socony-Vacuum Corp. are estimated at $29,918,353, against $43,469,353 in 1931. Disbursements by Standard of Indiana are placed at $16,908,544 for the year, against $25,494,894 in 1931, reflecting the reduction in the dividend rate from 50 cents a share quarterly in the third quarter of 1931 to 25 cents a share quarterly. Standard of California paid $2 a share this year, as against $2.50 a share in 1931.

Total dividend distributions by the Standard Oil group of companies during recent years follow:

1932	$181,050,895
1931	220,739,182
1930	286,526,728
1929	269,645,927
1928	218,740,325
1927	213,617,940
1926	260,311,594
1925	153,506,099
1924	150,388,555
1923	138,423,295
1922	129,039,865
1921	116,315,292

Standard of New Jersey, Cheseborough Manufacturing, Atlantic Refining, Imperial Oil and International Petroleum continued dividend payments at the same rate during 1932 as in the previous year.

WEST TEXAS GEOLOGISTS

Members of the West Texas Geological Society will hold a meeting at the Hotel Scharbauer in Midland, Tex., on November 30. Dr. Cyrus N. Ray of Abilene, president of the Texas Archaeological and Paleontological Society, will lecture on "Ancient Man in Texas".

JOSEPH D. WELSH DIES

Joseph D. Welsh, 77, a pioneer oil operator in Oklahoma and Kansas where he followed the oil business until he retired 10 years ago, died at his home in Kansas City, Mo., last week. Mr. Welsh was born in Saltsburg, Pa.

Crude Oil Prices

(Continued from Page 25)

Maljamar (Apr. 11, 1932)	.40
Artesia-Jackson (Apr. 11, 1932)	.45

Note—Salt Creek, Cat Creek, Dry Creek, Dallas-Derby, Hudson, Greybull, Hogback, and Iles by Midwest Refining Co. and remainder by Ohio Oil Co. Both companies posted Grass Creek and Elk Basin. Lost Soldier posted by Producers & Refiners Corp. Artesia, Jackson and Maljamar posted by Continental Oil Co. Border and Red Coolee posted by Imperial Refining Co. Lea County, effective October 15, The Texas Company and Shell Petroleum Corp., 75 cents; effective April 11, 1932, Humble Oil & Refining Co., 65 cents. Fort Collins, Wellington, Orchard, Florence, Rattlesnake and Table Mesa by Continental Oil Co. Osage posted by Arro Oil & Refining Co.

Eastern States

JOSEPH SEEP PURCHASING AGENCY
(Effective October 3, 1932)

Pennsylvania Grade Oil in National Transit Lines (Bradford Field)	$1.13
Pennsylvania Grade Oil in Southwest Pennsylvania Lines	1.43
Penna Grade Oil in Eureka Pipe Line Lines	1.37
Penna Grade Oil in Buckeye Pipe Line Lines	1.33
Corning Grade Oil in Buckeye Pipe Line Co.'s line (Oct. 4, 1932)	.85
Eagland Grade Oil in Cumberland Pipe Lines (Kentucky) (Jan. 10, 1931)	.40

PENNZOIL CO.
(Effective October 3, 1932)

Pennsylvania Grade Oil in National Transit Lines:	
Group A	$1.67
Includes Cochran, Franklin, Hamilton and Doolittle districts.	
Group B	1.66
Includes Titusville district.	
Group C	1.65
Includes Turkey and Tidiout districts.	
Group D	1.64
Includes Bear Creek and Porkey districts.	
Group E	1.62
Includes Eldenau, Bull Creek, Rough Run, Carbon, Dipner, Bredin, McJunkin, Jameson, Kennerdell, Emlenton, Tiona, Lacy and Kinzua districts.	
Price depends on length of pipe line haul to plant at Oil City.	

TIDE WATER PIPE CO.
(Effective October 3, 1932)

Bradford, Pa.	$1.72
Allegany, N. Y.	1.73

PURE OIL CO.
(Effective October 3, 1932)

Cabin Creek, W. Va.	$1.37
Bradford Hollow, W. Va.	1.37
Kelly's Creek, W. Va.	1.37

Middle Western States

OHIO OIL CO.
(Effective April 11, 1932)

Lima	$1.15
Wooster	1.25
Illinois	1.10
Indiana	.75
Princeton	1.10
Plymouth	Shut in
Western Kentucky	1.05
Midland, Mich. (July 13, 1932)*	.85
Muskegon (July 14, 1932)†	
Mid-Continent gravity scale	
Muskegon (June 30, 1932)†	.35
Somerset, Ky. (Apr. 25, 1932)	.35
Hart County, Ky. (June 10, 1932)‡	1.00

*Posted by Pure Oil Co. Old Dutch Refining Co. pays 20 cents per barrel over Pure Oil Co.'s posted price. †Naph-Sol Refining Co. ‡Old Dutch Refining Co. §Posted by Stoll Refining Co. Somerset, Ky., crude purchased by Ashland Refining Co., Ashland, Ky., and delivered through own pipe line.

Mexico

Panuco*	$0.42

*F.o.b. ship, based on September transactions and exclusive of production and export taxes and bar dues.

Canada

Ontario (Nov. 3, 1931):	
Petrolia*	$1.90
Oil Springs*	1.97
Alberta (Apr. 22, 1932):	
Turner Valley†:	
Crude oil 40-44.9	1.56
Crude oil 45-45.9	2.18
Crude oil 50 and above	2.80
Crude naphtha	2.33
Discolored naphtha	2.05

*Imperial Oil, Ltd. †Imperial Oil, Ltd., and Regal Oil & Refining Co.

California Crude Oil Prices

STANDARD OIL CO. OF CALIFORNIA
(Effective June 26, 1932)

For current purchases of crude oil at the well (unless otherwise specified.) (All gravities above those quoted take highest price offered in that field.)

Gravity—	Signal Hill (Long Beach)	Seal Beach, Alamitos Heights, Huntington Beach	Inglewood	Playa Del Rey	Olinda-Brea Canyon	Torrance	Richfield	Coyote Hills	Santa Fe Springs	Midway-Sunset, Elk Hills, Buena Vista Hills	Lost Hills	Athens, Rosecrans, Domingues	Montebello	Wheeler Ridge	Coalinga	Whittier-LaHabra
14-14.9	$.65	$.65	$.65	$.65	$.65	$.65	$.65	$.65	....	$.55	$.55	....	$.65	$ 55	$ 55	$.65
15-15.9	.65	.65	.65	.65	.65	.65	.65	.65	....	.55	.55	....	.65	.55	.55	.65
16-16.9	.65	.65	.65	.65	.65	.65	.65	.65	....	.55	.55	....	.65	.55	.55	.65
17-17.9	.65	.65	.65	.65	.65	.65	.65	.65	....	.55	.55	....	.65	.55	.55	.65
18-18.9	.65	.65	.65	.65	.65	.65	.65	.66	....	.55	.55	....	.65	.55	.55	.65
19-19.9	.65	.65	.65	.65	.65	.65	.65	.65	....	.55	.55	....	.65	.55	.56	.65
20-20.9	.69	.69	.71	.69	.69	.69	.69	.65	....	.59	.59	....	.65	.57	.59	.68
21-21.9	.74	.74	.77	.74	.74	.74	.74	.66	....	.63	.63	....	.67	.60	.62	.72
22-22.9	.79	.79	.82	.78	.79	.79	.79	.70	....	.69	.69	....	.70	.63	.65	.77
23-23.9	.84	.84	.88	.82	.84	.84	.84	.76	....	.75	.75	....	.73	.66	.68	.83
24-24.9	.89	.89	.92	.86	.89	.89	.89	.81	$.72	.81	.81	$.89	.76	.69	.72	.89
25-25.9	.93	.93	....	.91	.93	.93	.93	.86	.79	.87	.87	.93	.80	.72	.75	....
26-26.9	.97	.97	....	.96	.97	....	....	.90	.84	.92	.91	.97	....	....	....	....
27-27.9	1.00	....	....	....	1.00	....	....	.94	.89	.97	.94	1.00	....	....	....	....
28-28.9	1.03	....	....	....	1.03	....	....	.98	.94	1.02	.99	1.03	....	....	....	....
29-29.9	1.06	....	....	....	....	....	....	1.02	.98	1.07	1.02	1.06	....	....	....	....
30-30.9	1.09	....	....	....	....	....	....	1.05	1.02	1.12	1.05	1.09	....	....	....	....
31-31.9	....	....	....	....	....	....	....	....	1.06	....	....	1.12	....	....	....	....
32-32.9	....	....	....	....	....	....	....	....	1.10	....	....	1.15	....	....	....	....
33-33.9	....	....	....	....	....	....	....	....	1.14	....	....	....	....	....	....	....
34-34.9	....	....	....	....	....	....	....	....	1.18	....	....	....	....	....	....	....
35-35.9	....	....	....	....	....	....	....	....	1.22	....	....	....	....	....	....	....

The Texas Company, effective June 26, posted same prices as the Standard Oil Co. in Signal Hill, Alamitos Heights, Huntington Beach, Torrance, Richfield, Montebello, North Whittier and Santa Fe Springs.

The Union Oil Co., effective June 26, posted the same price as the Standard Oil Co. in the Signal Hill, Alamitos Heights, Seal Beach, Huntington Beach, Athens, Rosecrans, Domingues, Torrance, Santa Fe Springs, Playa Del Rey, Coyote, Olinda, Brea Canyon, Richfield and Montebello. In Coalinga, Lost Hills, Kern River, McKittrick, Midway-Sunset, Elk Hills and Buena Vista Hills the Union Oil Co. met the Standard Oil Co.'s prices from 14 gravity upward, but posted a price of 50 cents for oil 11 to 13.9 degrees in gravity.

General Petroleum adopted Standard Oil Co.'s prices, effective June 26, in Rosecrans, Signal Hill, Alamitos Heights, Santa Fe Springs, Inglewood, Torrance, Brea Canyon and Olinda, up to 25.9 degrees; Richfield, Midway-Sunset, Kern River, Mount Poso, Round Mountain and Coalinga and posted in Rincon as follows: 22-22.9 degrees, 68 cents; 23-23.9 degrees, 73 cents; 24-24.9 degrees, 78 cents; 25-25.9 degrees, 83 cents; 26-26.9 degrees, 86 cents; 27-27.9 degrees, 89 cents; 28-28.9 degrees, 92 cents; 29-29.9 degrees, 95 cents; 30 degrees and over, 98 cents. In Rosecrans, General Petroleum Co. pays 65 cents for 14 to 19.9 gravity oil; 20-20.9 degrees, 69 cents; 21-21.9 degrees, 74 cents; 22-22.9 degrees, 79 cents; 23-23.9 degrees, 85 cents, and Standard's prices for oil of higher gravity.

Associated Oil Co., effective June 26, met Standard Oil Co.'s prices in Signal Hill, Huntington Beach, Seal Beach, Alamitos Heights, Richfield, Torrance, Inglewood, Athens, Rosecrans, Domingues, Santa Fe Springs, McKittrick, Kern River, Midway-Sunset, Elk Hills, Buena Vista Hills, Lost Hills, Belridge and Coalinga.

Kettleman Hills—The Union Oil Co., effective June 26, posted 33-33.9 gravity oil at 91 cents; 34-34.9 degrees, 93 cents; 35-35.9 degrees, 95 cents; 36-36.9 degrees, 97 cents; 37-37.9 degrees, 99 cents; 38-38.9 degrees, $1.01; 39 degrees and over, $1.03. Standard Oil Co., Associated Oil Co. and General Petroleum Co. adopted same price schedule on same day.

Santa Paula—The Union Oil Co. and The Texas Company, effective June 26, posted as follows: 14 degrees to 19.9 degrees, 66 cents; 20-20.9 degrees, 69 cents; 21-21.9 degrees, 72 cents; 22-22.9 degrees, 75 cents; 23-23.9 degrees, 78 cents; 24-24.9 degrees, 81 cents; 25-25.9 degrees, 84 cents; 26-26.9 degrees, 87 cents; 27-27.9 degrees, 90 cents; 28-28.9 degrees, 93 cents; 29 degrees and above, 99 cents.

Shields Canyon and South Mountain—The Texas Company, effective June 26, posted same prices as in Santa Paula.

Orcutt—The Union Oil Co., effective June 26, posted prices as follows: 16 degrees to 19.9 degrees, 55 cents; 20-20.9 degrees, 59 cents; 21-21.9 degrees, 63 cents; 22-22.9 degrees, 69 cents; 23-23.9 degrees, 75 cents; 24-24.9 degrees, 81 cents; 25-25.9 degrees, 87 cents; 26 degrees and above, 93 cents.

Playa Del Rey—Subject to a field gathering charge of 5 cents per barrel.

Newhall, McKittrick and Kern River—Standard Oil Co., effective June 23, 1931, posted 55 cents for oil of all grades.

Elwood Terrace—Standard Oil Co., effective June 26, 1932, posts 33-33.9 degrees, $1.04; 34-34.9 degrees, $1.10; 35-35.9 degrees, $1.16; 36-36.9 degrees, $1.22; 37-37.9 degrees, $1.28. All prices f.o.b. ships.

Ventura Avenue—General Petroleum Co. and Associated Oil Co. effective June 26 posted as follows: 22-22.9 degrees, 72 cents; 23-23.9 degrees, 77 cents; 24-24.9 degrees, 82 cents; 25-25.9 degrees, 86 cents; 26-26.9 degrees, 90 cents; 27-27.9 degrees, 93 cents; 28-28.9 degrees, 96 cents; 29-29.9 degrees, 99 cents; 30 degrees and over, $1.02.

Potrero—Associated Oil Co., effective June 26, posted same prices as are paid by all companies in Athens, Rosecrans and Domingues.

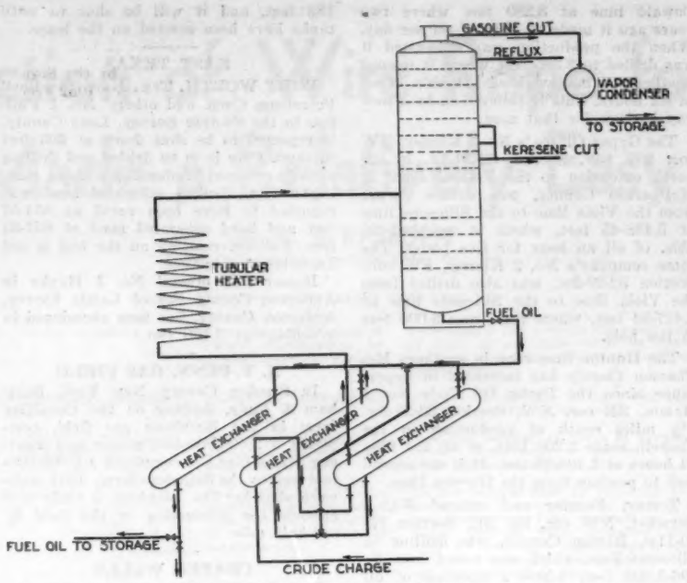
Simrall Plant Has Flexible Operation

(Continued from Page 28)

for kerosene and distillate cuts. A reflux stream with thermostatic control determines the endpoint of the finished stream. The finished streams pass through look-boxes in the tail house shown in the accompanying picture and from there to the run-down tanks. The gasoline cut is chemically treated in the conventional manner. The bubble tower provides for close fractionation and it is possible to secure special naphtha cuts as well as gasoline. Kerosene and special distillate cuts used as tractor fuels and furnace oils are also obtainable.

An interesting feature of the plant is the use of control instruments. Due to these instruments the operation is largely automatic after the management has decided upon a certain operation for a given quantity of crude oil. Starting with a flow indicator for the crude oil the crude charge is regulated with a differential diaphragm pump governor with the same arrangement for the reflux pump, the latter having a thermostatic valve control connected to the top of the tower.

A liquid level control regulates the flow of fuel oil from the bottom of the tower. There is also a duo-gravity control for water separators. In the boiler house there is a back pressure steam regulator and a live steam regulator. The distillation unit was installed by Foster Wheeler, Ltd., of Canada.



Flow chart of crude distillation unit

Natural Gasoline Advance Due to Volatility Demand

(Continued from Page 21)

products, however, invariably do not meet all the specifications required of industrial fuels.

Wax

The 124-126 wax in Oklahoma is now quoted over a price range of 1⅞ to 2 cents, an advance of one-eighth cent per pound. Most manufacturers are sold up but are being offered the higher prices in the domestic market. Prices on steam refined stocks, bright stocks and neutral oils are unchanged. None of these products is active.

Natural Gas Production in Canada Was Lower

CHATHAM, Ontario, Nov. 28.—Official figures just issued from Ottawa show that the natural gas production from all Canadian fields in September amounted to 1,157,682,000 feet compared with 911,982,000 feet in August and 1,512,228 feet in September, 1931. The government bulletin records the drilling into production of Northwestern Utilities' No. 2 Harvey in the Kinsella Field, Alberta, with an open flow reported of 19,000,000 feet a day of dry gas. In September, imports of mixed (natural and artificial) gas into Canada reached a total of 9,191,000 feet worth $6,870; in the preceding month 7,768,000 feet valued at $6,113 were imported.

Figures of natural gas production, in thousands of feet, for the nine months of 1932, show gains in the winter months compared with 1931 but declines since then. The comparative figures are as follows:

	1932	1931
January	3,220,037	3,113,338
February	3,048,967	2,895,369
March	3,009,764	2,675,136
April	2,353,619	2,386,879
May	1,760,161	1,983,262
June	1,130,787	1,504,916
July	981,700	1,414,696
August	911,982	1,261,510
September	1,157,682	1,512,228
Total	17,569,749	18,747,334

MACMILLAN CASE SET

AUSTIN, Tex., Nov. 28.—Notice was received by the attorney general's department that the U. S. Supreme Court had set December 6 to hear arguments in the Macmillan case, the first suit filed in Federal court attacking the right of the State of Texas to prorate oil production. Decision was against the State by a three judge Federal court at Houston.

CANADIAN GASOLINE TARIFF

CHATHAM, Ontario, Nov. 26.—While the federal government some weeks ago removed the dumping duty on imported gasoline, a recent bulletin from Ottawa states that the Canadian importer must bring in the gasoline at the price for home consumption in the United States. This is taken to mean that the import price must include the United States excise tax of 1 cent a gallon, though this tax is not imposed on gasoline exported from the United States.

As the Canadian (Imperial) gallon is larger, the tax per Canadian gallon comes to 1¼ cents. The importer also pays exchange on this extra charge; and also the Canadian sales and excise taxes on the resulting total. The result is an extra 1½ cents on imported gasoline, supplementing the 2½-cent duty regularly imposed.

BOW ISLAND GAS FRANCHISE

CHATHAM, Ontario, Nov. 26.—Ratepayers of Bow Island, Alberta, will vote on December 5 on the natural gas agreement recently concluded with the Canadian Western Natural Gas, Light, Heat & Power Co. Under the terms of this agreement the town is to receive free gas from the company's main transmission line for a five-year period, the company taking over and plugging the Bow Island community well.

The Oil Man's Calendar

December

5—New Orleans, La., tenth annual Asphalt Paving Conference, and Association of Asphalt Paving Technologists.

5-9—New York, N. Y., American Society of Mechanical Engineers.

9—Annual meeting, Independent Petroleum Association of Texas, Fort Worth.

5-10—New York, N. Y., National Exposition of Power & Mechanical Engineers.

6-8—Omaha, Neb., Nebraska Petroleum Marketers, Hotel Fontenelle.

7-9—Washington, D. C., American Institute of Chemical Engineers.

8—New York, Executive Committee, American Petroleum Institute.

9—Fort Worth, Tex., Independent Petroleum Association of Texas, Texas Hotel.

21—Los Angeles, Calif., California Oil and Gas Association, annual Christmas Jinks, Sala d'Oro, noon, Biltmore Hotel.

(?)—Great Falls, Mont., Rocky Mountain Oil and Gas Association, Rainbow Hotel.

1933

January

7-14—New York, National Automobile Show, Grand Central Palace.

9-10—Fargo, N. Dak., annual convention, Northwest Petroleum Association, North Dakota Division, Waldorf Hotel.

12-13—St. Paul, Minn., annual convention, Northwest Petroleum Association, Minnesota Division, Lowry Hotel.

16-20—Detroit, Mich., Highway and Builders Congress.

28-Feb. 4—Chicago, Ill., National Automobile Show, Coliseum.

February

15-17—Columbus, Ohio, Ohio Petroleum Marketers Association, Desher-Wallick Hotel.

March

23-25—Houston, Tex., eighteenth annual meeting, American Association of Petroleum Geologists. Society of Economic Paleontologists and Mineralogists, seventh annual meeting. Society of Petroleum Geophysicists, fourth annual meeting, Rice Hotel.

April

5-6—Hot Springs, Ark., Western Petroleum Refiners Association.

13-15—Tulsa, Petroleum Industry Electrical Association.

20-21—Cleveland, Ohio, National Petroleum Association, Cleveland Hotel.

May

(?)—Tulsa, Natural Gasoline Association of America.

June

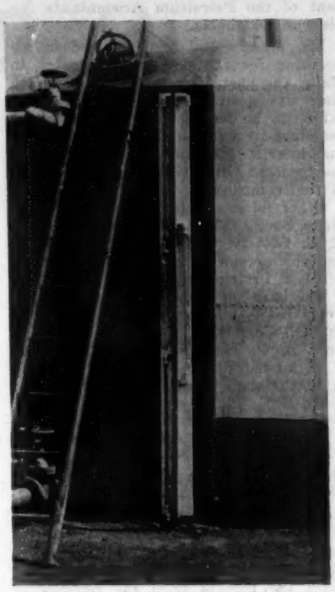
26-30—Chicago, Ill., annual meeting, American Society for Testing Materials, Stevens Hotel.

October

24-26—Chicago, Ill., fourteenth annual meeting, American Petroleum Institute.

Use Gauge Glasses on Small Tanks to Cut Evaporation

H. L. Welton, general superintendent of the Garber Refineries, Inc., has simplified the problem of accurately and quick-



Gauge glass in place on rundown tank

ly gauging small tanks at the company's Garber, Okla., refinery by adopting a rather simple arrangement. The picture here shows one of these gauges which simply consists of a 1-inch main line reaching from the top of the tank to the bottom fitted on each end with an ell, nipple and tank flange. The main riser is made up of nipples and tees so located as to permit a short overlapping of the gauge glasses when in place. A street ell extending from each tee provides a means of holding the glasses.

The only special part needed is the packing gland, which holds the glass and fits into the street ells. Ordinary boiler gauge glands and glasses are in use here.

An ordinary varnished gauge pole is fixed permanently on to the riser. To add to the visibility of the oil level in the glasses, a 6-inch board, painted white, is permanently located in back of the glasses. By using this type of gauge, there is no need for the tank to be opened, and thus evaporation losses are decreased as well as promoting safety in the operation.

OPERATING PART-TIME BASIS

KANSAS CITY, Mo., Nov. 26.—The Sugar Creek refinery of the Standard Oil Co. (Indiana) is now operating on a part-time basis due to the seasonal decline in demand for motor fuels. G. H. Moffett, manager of the refinery, has issued the following statement regarding the plans for operation during the winter months:

"Part timing of equipment and employes has been instituted at the Sugar Creek refineries in order to meet current manufacturing problems without actual reduction of number of men employed.

"Large capacity equipment used in the refinery cannot be run economically on a reduced scale. As full operation cannot be continued without building excess stocks, the equipment is to be shut down occasionally for periods of a few days.

"During the period of operation the work will be divided among all of the employes as equally as conditions permit. The Standard Oil Co. is making every effort to handle the employment problem so as to distribute as evenly as possible such work as is available during the slack season."

COLON PRODUCTION

Production of Colon Oil Corp.'s subsidiary in Venezuela for the week ended November 18, 1932, was 162,050 bbls.

M. H. Massey Chairman of Petroleum Accountants

M. H. Massey, in charge of the auditing staff of the Ohio Oil Co. in the Mid-Continent Field, has been elected president of the Petroleum Accountants Society of Oklahoma.

Mr. Massey has been engaged in accounting for the petroleum industry in Tulsa the past 15 years, most of which time was spent with the Waite Phillips interests, he having served as assistant secretary-treasurer of Waite Phillips Co. and later in the same capacity with the Independent Oil & Gas Co. until the sale of that company.

Other officers elected were: E. F. Brite, Skelly Oil Co., first vice president; E. S. Loosely, Continental Oil Co., second vice president; and E. A. Titsworth, Sinclair Prairie Co., secretary-treasurer.

The board of directors includes the officers listed, and L. D. Messner, Barnsdall Oil Co.; D. B. Catterlin, Gypsy Oil Co.; L. P. Harrington, Pure Oil Co.; K. S. Adams, Phillips Petroleum Co.; and E. C. Callahan, Mid-Continent Petroleum Corp.

Late Fields

OKLAHOMA

The November proration order, fixing the allowable of the Oklahoma City Field at 73,510 bbls. a day, was continued through December by the Oklahoma Corporation Commission after the members heard the reports from the purchasing companies that no increase in nominations could be expected. There was no change in the allowables for other fields in the State, according to Umpire R. M. Collins, except in the Holdenville area of Hughes County, which was permitted to produce 3 per cent of its potential, plus 20 bbls. per well per day. Umpire Collins said that the percentage in Holdenville has been 1½ to 2 per cent due to limited pipe line demands.

Booch sand production in the Holdenville Field was extended when Felmelee and others' No. 1 Chupco, in Section 15-7-8, filled up 2,000 feet with oil at 2,886-2,902 feet. This well extends production a quarter of a mile to the west.

Sinclair Prairie Oil Co.'s No. 1 Narcomie, NW cor. SE SW, Section 9-7-8, has completed its fishing for tools and the well swabbed and flowed 460 bbls. of oil in 17 hours, part of which was water. The company plans to drill deeper.

The Southern Oil Co.'s No. 1, NW cor. NE SW, Section 14-7-8, on the south edge of the shallow area, found water in the Calvin sand at 1,140-52 feet, where it may be abandoned.

Pringle & Marshall's No. 1, SW cor., Section 10-7-8, on a .69-acre tract, cored the Booch sand from 2,896-98 feet with a showing of oil and gas, and they were preparing to land casing at a total depth of 2,906 feet.

English & Pourtellotte's No. 1 Harjo, NE cor. SW, Section 3-8-8, Hughes County, is a location.

F. Lundy and others' No. 1 Majors, NE cor. SE SE, Section 25-1s-3w, in the south extension of the Tatums Field in Carter County, is estimated at 400 bbls. a day. The owners are preparing to take a proration test on the swab. The sand was found at 2,419-2,501 feet.

In southern Jefferson County two new locations were announced and a well swabbed 100 bbls. a day. O. V. Beck and others' No. 9 Seay, CNL SW SE, Section 34-6s-5w, swabbed 100 bbls. a day from the sand at 1,160-1,372 feet, with the total depth being 1,489 feet.

KANSAS

A wildcat test in Barton County, Kansas, found a showing of oil and water in the Siliceous lime. The well, Smith & Ash and others' No. 1 Wilson, C NW SW, Section 13-18-14w, landed casing at 3,371 feet and found the Siliceous lime at 3,418-36 feet, where a showing of oil and hole full of water was found. It is shut down.

Phillips Petroleum Co.'s No. 1 Kessler, SE cor., Section 32-11-17w, in northern Ellis County, was drilled deeper from the Oswald lime at 3,280 feet where two years ago it made 25 bbls. of oil per day. When the production was exhausted it was drilled to 3,305 feet where it opened another pay and swabbed 171 bbls. of oil in six hours. This is believed to be a new pay horizon for that area.

The Gypsy Oil Co.'s No. 3 Kinney, NW cor. SW SW, Section 32-20-3w, in the north extension to the Voshell Pool, in McPherson County, was drilled deeper from the Viola lime to the Siliceous lime at 3,438-43 feet, where it swabbed 50 bbls. of oil an hour for five hours. The same company's No. 2 Kinney, SW cor., Section 32-20-3w, was also drilled from the Viola lime to the Siliceous lime at 3,427-34 feet, where fluid rose 3,000 feet in the hole.

The Hunton lime zone in southern McPherson County has increased in importance since the Derby Oil Co.'s No. 1 Hamm, SE cor. NW, Section 33-21-3w, 1½ miles south of production in the Voshell, made 2,206 bbls. of oil the first 24 hours at 3,464-68 feet. It is the second well to produce from the Hunton lime.

Torrey, Feaster and others' No. 1 Berschet, NW cor. SE SE, Section 12-20-11w, Barton County, was drilling in Siliceous lime, which was found from 3,296-3,300 feet, where a showing of oil was found.

Producers & Refiners Corp.'s No. 1 in the NE cor. NW SE, Section 19-22-3w, in the Hollow Pool, in Harvey County, is estimated at 3,000 bbls. a day from the chat at 3,165-3,208 feet. It was flowing wild for several hours before being brought under control. No gauge has been taken of the well as it found the chat unexpectedly. The well found the first gas at 3,166 feet and the first oil at 3,188 feet, and it will be shut in until tanks have been erected on the lease.

EAST TEXAS

FORT WORTH, Tex., Nov. 29.—Shell Petroleum Corp. and others' No. 1 Phillips in the Swayze Survey, Leon County, is reported to be shut down at 693 feet in sand. Plug is to be drilled and drilling is to be resumed Wednesday without making a test. Broken saturated sand was reported to have been cored at 654-57 feet and hard saturated sand at 657-61 feet. Full information on the test is not available at this time.

Roeser and others' No. 1 Hanke in Anderson County School Lands Survey, Anderson County, has been abandoned in Woodbine at 5,400 feet.

N. Y.-PENN. GAS FIELD

In Steuben County, New York, Bingham & Cady, drilling on the Considine farm in the Rathbone gas field, completed a 2,500,000-foot gasser and Eastern States Gas Co. completed a 2,000,000-foot well on the Saunders farm. Both wells were shut in. The Bingham & Cady well extends the production in the field by one-half mile.

CRATER WELLS

Technical Paper No. 535, issued by the U. S. Bureau of Mines, is entitled, "Crater Wells, Richland Gas Field, Louisiana," and was prepared by H. B. Hill, senior petroleum engineer, Dallas, Tex. It is a very interesting presentation of a condition that developed in the Richland gas fields and contains complete data upon all phases. Copies may be secured by sending 10 cents in coin to the Government Printing Office, Washington, D. C.

Leslie McKay Appointed Connections Chairman

AUSTIN, Tex., Nov. 28.—The Texas Railroad Commission Monday announced the appointment of Leslie McKay, chief deputy oil and gas supervisor, as chairman of the East Texas pipe line connections committee. He succeeds Jack Pew of Dallas, who will remain active on the committee as vice chairman.

The aim of the committee is to obtain distribution of pipe line connections in the East Texas oil field.

Mr. McKay said a meeting would be held in Dallas shortly after the new proration schedules for East Texas were announced by the commission.

The commission stated in appointing Mr. McKay it desired to exercise an official supervision and be in closer contact with the problem of securing pipe line connections for distress wells.

The committee is composed of representatives of a majority of crude oil purchasing companies and meets each two weeks in Dallas.

SABINE RIVER LINE

The International Pipe Line Co. has been formed by J. Earl Brown for the purpose of laying a gathering system to connect to all wells drilled and to be drilled by the Rhoades Drilling Co. on its Sabine River Bed leases in Gregg County. Pipe to be laid will consist of 2½-inch, 2-inch, 4 and 5-inch pipe. Two 10,000-bbl. storage tanks have been constructed by the company, to which a purchasing company will connect for the purpose of taking the company's oil.

American Pipe Liners Enroute to the "Firing Line" of the Iraq Pipe Line

While their ship, the S. S. Exeter, was discharging and taking on cargo at Alexandria, Egypt, above group of American pipe liners, enroute to take positions in connection with the construction of the pipe line in Iraq, took the opportunity to visit the Pyramids and Sphinx near Cairo. From left to right they are: N. H. (Noisy) Dekle; D. C. Welty, L. G. (Doc) Barnhill, E. L. Teague, Willis G. Garner, H. C. (Sleepy) Marquess, D. O. (Red) Peddy, L. B. Buck and Tom E. Garner. All but Mr. Welty and Mr. Marquess are welders

Proper Selection of Wire Rope for Rotary Rig Can Be Made a Relatively Easy Problem

By A. S. RAIRDEN
Chief Engineer, American Cable Co., Inc.

Present-day competition calls for thorough cost analysis of operations in order to bring about financial success in the oil drilling contracting business. The contractor who cuts his operating costs to the limit nowadays secures the drilling contracts. One appreciable item of the costs of operations is the wire rope bill. We will endeavor in this article to suggest ways and means of economizing on wire rope, thereby minimizing wire rope costs on contract estimates.

Close scrutiny of wire rope costs first of all requires the keeping of close records on the amount of work performed by a length of wire rope on a rig. Cost per ton mile of work done by a wire rope is the most popular and most comparative method of cost analysis on a rotary drilling rope. Due to variations of formations and variations of diameter and weight per linear foot of drill pipe cost comparisons cannot accurately be made on the total number of feet of hole drilled when comparing rope costs in different pools.

When a wire rope is called upon to pick up a string of drill pipe 4½-inch diameter at a well depth of 3,000 feet to replace the rotary bit and put the string of 4½-inch drill pipe in place again to the well depth of 3,000 feet, using a traveling block and hooks weighing 8,700 pounds, the amount of work done by the wire rope as obtained from the chart in Figure 1 is equal to 27.5 ton miles.

The above service or work evaluations have been graphically prepared to assist the contractor in preparing his ultimate wire line costs per ton mile. These can be figured readily after obtaining the total ton miles of work done by the wire rope during its useful life and knowing the cost of the line to the contractor.

Depth and Diameter Must Be Known

Whenever the string of drill pipe is pulled out and put in place again it is necessary to know at what depth this was done and also the diameter of drill pipe used at that time. Knowing the weight of the traveling block and hooks to be equal to 8,700 pounds, the ton miles of work can be readily drawn off from the curves each time the hoisting operation of the drill pipe is carried out. The sum total of all the ton mile records of work for the life of the length of rope represents the total work done by the rope.

The curves have been mathematically computed by determining the weight in tons of drill pipe lifted and lowered and the total distance traversed by the drill pipe during the lifting and lowering operations. The product of these two quantities figured at various depths for various sizes of drill pipe produce the work or service curves as illustrated.

Preparation of wire rope service records will not reduce the wire rope costs unless the rope is frequently examined and a standard point of discard due to the service deterioration is determined.

The rope should be discarded when:

(a) The number of outside wires broken within a length of one rope lay exceeds the following:

Rope construction—	Total wires within one rope lay	No. of adjacent wires broken in any one strand
6x19 Seale	6	3
6x16 with 5 fillers	7	3
6x19 with 6 fillers	9	4

By rope lay is meant the distance parallel to the rope axis traversed by one strand in making one complete revolution around the rope axis.

CAUSES OF ROPE FAILURE

Rope Failure Due to—	Identification	Prevention
1. Drum Crushing	Continuous flattening of rope accompanied by displacement of wires.	Periodically cut a piece off drum end of rope or use rope with an independent wire rope center in place of hemp center.
2. Unnatural Abrasion	Ununiform distribution of wear.	Align rope so that it does not pull off side of sheave grooves.
3. Low Safety Factor of Operation	Premature breaking of wires on crowns with very little wear.	Increase number of parts in reeving, or use larger rope, or use wire rope with independent wire rope center.
4. Kinking	Dog leg in rope accompanied by shortening of rope lay and distortion of rope symmetry of construction.	Do not remove rope by throwing and unwinding it over the top head of a reel thrown on the ground on one head. Prevent rope dragging over edge of reel when unwinding. Mount reel on shaft and pull rope directly off free revolving reel.
5. Ununiform Fatigue	Ununiform distribution of broken wires.	Cut off a piece periodically from the dead end to distribute maximum point of bending fatigue over sheaves.
6. Severe Abrasion and Corrosion	Wear on wires on strand crowns, and pitting of wires.	Lubricate ropes frequently and thoroughly with an approved wire rope compound.
7. Uniform Winding on Drum	Localized flattening of rope accompanied by displacement of wires, spots usually located apart distances equal to length of one wrap around drum.	Wind rope on drum at time of installation with a great deal of tension on line. The first layer on the drum especially should be compacted on the drum tightly.

(b) Outer wires are worn to two-thirds of their original diameter.

(c) Marked corrosion appears.

(d) Secondary rapid stretch of rope appears.

Uniform Factor of Operating Safety

In addition to uniform inspection rules governing discard it is also necessary to use a uniform factor of safety of operation of the wire rope in order to make the service records comparative. By factor of safety is meant the ratio between the rated guaranteed breaking strength of the rope and the tension on the lead line of the multiple rope reeving through the stationary and traveling blocks; this ratio should not fall below 5 and should preferably be equal to about 6. To be able to determine this factor of safety of operation the following table has been prepared showing the per cent efficiency of the various reevings and also the lead line tension factors.

No. of parts of line—	2	3	4	5	6	7	8	9	10
Efficiency, per cent	96.2	92.5	88.9	86.5	82.2	79.0	76.0	73.0	70.3
Lead line tension factor	.52	.361	.281	.234	.203	.181	.165	.152	.142

Multiplying the load to be lifted (as represented by drill pipe, joints, traveling block and hooks) by the tension factor for the particular reeving under consideration will enable a contractor to predetermine the maximum load on the rope and will also enable him to determine his factor of safety of operation which is equal to:

Rated guaranteed breaking strength divided by lead line tension. The most effective use of the service records can be made by studying and determining the reasons for premature failure of wire rope with subsequent high costs per ton mile. We enumerate in accompanying table in parallel columns the most common causes of premature rope failure, how it may be identified and how it may be prevented.

Figure 2 shows the comparison in the main strand construction between the 6x19 Seale, the 6x16 with 5 fillers construction and the 6x19 with 6 fillers construction. The latter two types of rope are particularly well adapted to use on the smaller sizes of hoisting drums and sheaves. Economic rope service can especially be obtained from the 6x16 with 5 fillers construction and the 6x19 with 6 fillers construction when used on drums with grooved faces.

Design of a rope best suited to withstand the conditions imposed upon it on a rotary rig must possess the following important characteristics:

(a) Resistance to heavy crushing forces.

(b) Resistance to severe bending fatigue.

(c) Resistance to severe abrasion.

Features of Rope Design

We enumerate briefly the high spots of the rope design to meet the three necessary important characteristics:

(a) Outer wires must be large enough, and the grade of steel must be hard enough to resist the forces tending to push the wires out of their normal position. The inner series of wires must be designed to furnish the proper support to the outer layer of wires in each strand. When the crushing forces are particularly heavy an independent wire rope core instead of the hemp core should be used.

(b) Outer wires must be of the correct size and grade to furnish the proper resistance to bending fatigue and fatigue due to torsion or the twisting tendency of the rope while in service.

While a wire rope is traveling over sheaves under load the prime factors tending to fatigue or break the outer wires on the strand crowns are the bending of the wires as the rope is bent over the sheaves and the twisting of the wires as the rope itself revolves around its axis while traveling over the sheaves.

The latter deteriorating influence can be eliminated in large part by preshaping the strands to conform to the position which they will occupy in the completed rope.

(c) Abrasion resistance is entirely a function of the size and also the grade of the outer wires. The outer wires in each strand should be large enough and hard enough to resist usual abrasion encountered on a rotary rig, but these outer wires cannot be too large or too hard for otherwise the fatigue resisting qualities of the rope will be destroyed.

The application of the proper type of wire rope compound to the rope is also recognized in finding a solution to ordinary abrasion encountered on a rotary rig.

Manufacturing Wire Rope

The manufacture of wire rope may be subdivided into three main operations: (1) spooling; (2) stranding; and (3) closing.

In the spooling operation the rope wire is transferred from a coil to an iron spool or bobbin that is later loaded into the stranding machine. The spooling equipment (Figure 3) consists of a free-revolving table on which the coil of wire is laid and held in position by a center section of the table that protrudes

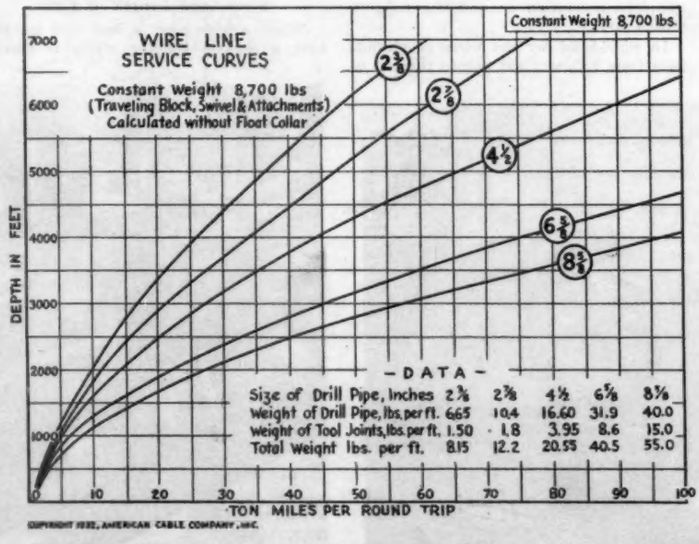


Figure 1. The above chart is based on a constant weight of 8,700 pounds (traveling-block, swivel and attachment). At 3,000 feet the amount of wire rope work done to replace the rotary bit with 4½-inch diameter drill pipe is 27.5 ton miles. With 2⅛-inch diameter drill pipe the work done is 20 ton miles

through the center of the coil in the shape of a truncated cone. The wire from the coil is threaded through a distributing mechanism that distributes the wire evenly over the face of the bobbin drum, which is caused to revolve at a uniform rate of speed.

In the stranding operation a combination of different sizes of wire previously wound on bobbins during the spooling operation are twisted together in a predetermined uniform geometrical arrangement forming a round strand. The wires are led toward the front end of the stranding machine (Figure 3) where they are threaded through holes located in concentric circles in the twister-head, a plate usually about 6 to 12 inches in diameter and one-half inch thick. From the twister-head the several layers of wires are made to converge at one point, forming conical shapes between the plate and what is ordinarily termed the point of twist. At this converging point the wires are held together and pulled through a round hole in a hard steel die at a uniform speed. The combination of revolving the stranding machine and pulling the wires out of the machine at uniform rates of speed produces the effect of twisting the one or more layers of wires around the center or core wire in helical paths.

Stranding Machine

The stranding machine (see Figure 4), circular in shape, contains within it several cradles which, either by mechanical means or by proper counterweighting, are forced to maintain a fixed relative position with respect to the axis of the stranding machine as it revolves. This positioning of the cradles is necessary to minimize the accumulated twist or torsional forces in the wires as they are being twisted together. The bobbins filled with rope wire are placed in the cradles free to revolve and with their axes at 90 degrees to the axis of swing of the cradles.

The finished strand as it comes from the stranding machine is wound several times around one or two drums ordinarily termed the haul-off drums, which keep the strand moving at a uniform rate of speed. From the haul-off mechanism the strand is threaded through a mechanism that distributes the strand evenly over the face of a large iron spool or bobbin, which is later to be loaded in the closing machine.

The closing operation, in principle, is similar to the stranding operation except that strands instead of single wires are twisted around a central member or core, with a uniform length of lay or pitch. Usually the strands are six or eight in number and the core is either a hemp rope or a small independent wire rope.

A recent departure from the ordinary closing operation permits the preforming or preshaping of the strands and wires composing the strands by passing the strands over rollers of the proper diameter and so positioned relatively to one another that the resultant strand assumes the exact helical shape that it will occupy in the finished rope. This operation removes practically all torsional or untwisting forces ordinarily encountered in wire rope. Wire rope stranded in this manner is characterized by the trade as "preformed."

Wire Rope Types

A wire rope may be considered as possessing a perfectly symmetrical cross-section consisting of six or eight strands twisted helically around a hemp or wire core with a uniform length of lay or pitch in such a manner as to uniformly distribute the strands around the axis of the rope.

A strand consists of concentric interlocking layers of wires twisted helically around a steel wire or hemp core with a uniform length of lay or pitch in such a manner as to distribute the wires around the axis of the strand uniformly.

Length of lay is the distance parallel to the axis of a rope or strand between two identically positioned points on one strand or on one wire in making one complete revolution around the rope or strand axis.

In right-hand lay the wires or strands pass from left to right across the top of the strand or rope while receding from the observer. In left-hand lay the wires or strands pass from right to left across the top of the strand or rope while receding from the observer.

Finished wire rope is made in two types of lay—that is, regular lay and lang lay (see Figure 5). In regular-lay the direction of lay of the wires in the strands is opposite to the direction of lay of the rope; in lang-lay rope the direction of the lay of the wires in the strands is in the same direction as the lay of the rope. Comparing regular-lay and lang-lay rope in Figure 1, we may observe the following important features:

1. In the regular-lay rope the axes of the outer wires on the crowns of the strands run parallel to the rope axis.

2. In the lang-lay rope the axes of the outer wires of the crowns of the strands lay at an angle of about 37 degrees with respect to the axis of the rope.

3. The length of the outer exposed wires on the crowns of the strands of the regular-lay rope is about one-third the length of those in lang-lay rope.

Stress and Length of Life

When a wire rope is bent and travels over a sheave, bending stress is developed in the wires. In regular-lay rope the bending moment reacts directly along the axis of the outer wires, whereas in the lang-lay rope the bending moment must be translated through an angle of 37 degrees to react along the axis of the outer wires, which translation decreases its magnitude slightly. Since the bending moment in a lang-lay rope reacts along a length of exposed outer wire about three times as long as the length of exposed outer wire in regular-lay rope, the bending fiber stress is therefore less in lang-lay rope.

Life curves of rope (Figure 6) depict the relative behavior of lang-lay and regular-lay ropes tested on a machine in which the ropes are passed back and forth with severe reverse bends over three 12-inch sheaves. The greater length of life of the lang-lay rope is evident. For example, with 30 broken wires in a 4-foot length the lang-lay rope life is 147 per cent of the regular-lay rope life.

Certain disadvantages of lang-lay rope must be noted, however. First because of its construction it does not resist crushing as readily as regular-lay rope, and lang-lay rope should never be used on installations where the hoisting drum does not permit uniform and even winding. Lang-lay rope is preferably not to be used where the rope over-winds in more than two layers on a hoisting drum.

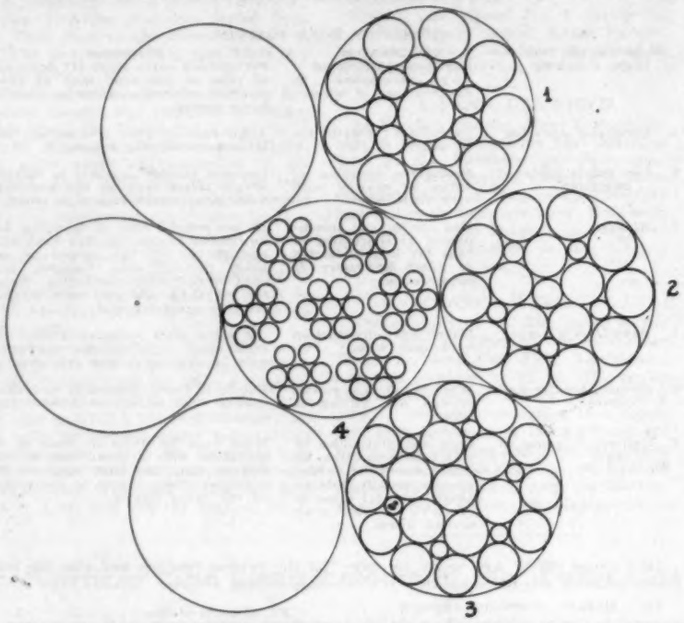


Figure 2. Cross section diagram showing strand construction of (1) 6x9 Seale, (2) 6x16 with 5 fillers, (3) 6x19 with 6 fillers, (4) construction of 7x7 independent wire rope center

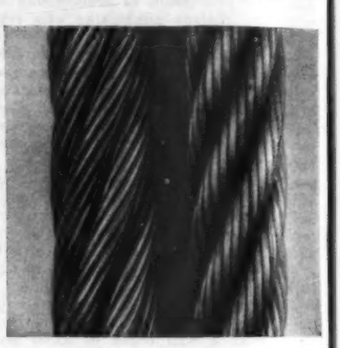


Figure 5. In regular-lay rope (right) the lay of wires is opposite to the lay of the rope, and the axes of the outer wires are parallel to the axis of the rope. In lang-lay rope (left) the lay of wires and the rope are in the same direction, and the axes of the outer wires make an angle of 37 degrees with the axis of the rope

Constructions of Wire Rope

Figure 2 shows the most common construction of wire rope used for rotary drilling operations. For ready comparison, strands of various constructions are included within the same wire-rope cross-section. The wire sizes are all to the

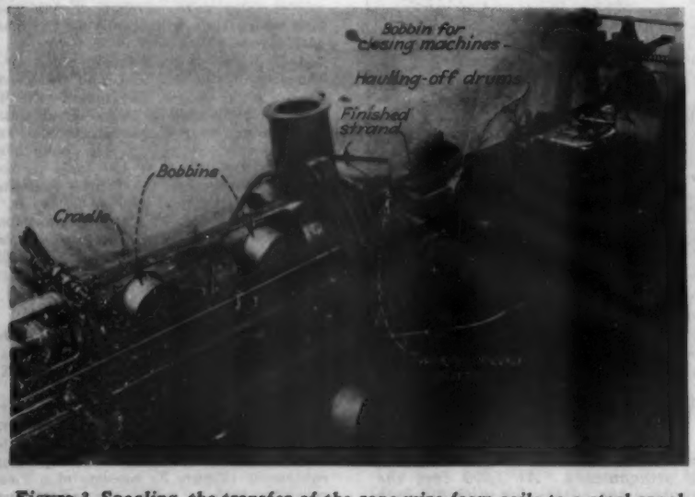


Figure 3. Spooling, the transfer of the rope wire from coils to a steel spool or bobbin that fits into the stranding machine, is the first operation in wire-rope manufacture

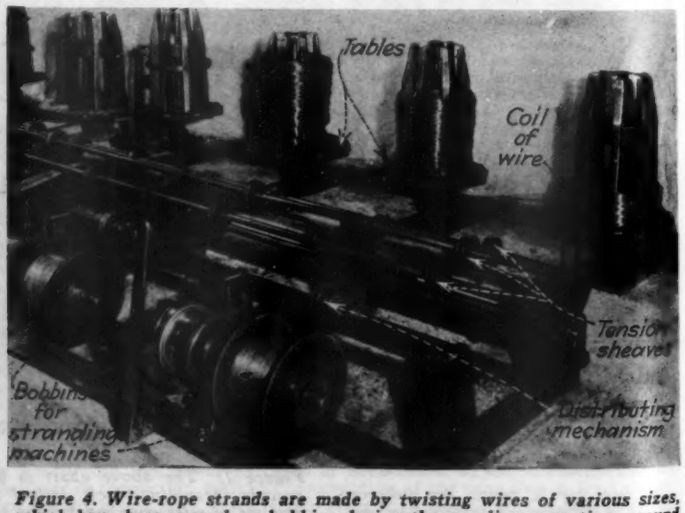


Figure 4. Wire-rope strands are made by twisting wires of various sizes, which have been wound on bobbins during the spooling operation, around a core wire. The strands as they leave the machine are wound on a large bobbin which later is fitted into the closing machine

same scale so that comparisons may readily be made.

The important factors influencing the choice of the size, grade and construction of rope to be used may be briefly enumerated as follows: (a) stress or load on rope; (b) resistance to bending fatigue; (c) resistance to abrasion; and (d) resistance to distortion or crushing.

Stress—The stress or load on a wire rope on a rotary rig may readily be computed using simple laws of physics by determining the weight of the load lifted, the maximum linear speed at which the load is lifted, the rate of acceleration or deceleration of hoisting, and the load applied to the rope due to friction.

Static tension may be easily figured by the formula:

$$T = \frac{W \times \left(\frac{1+100\text{—Block and falls effic'y}}{100}\right)}{\text{No. of parts of line in reeving}}$$

The block and falls efficiency may be taken from the following table which shows the per cent efficiency of the various reevings:

No. of parts in line	Efficiency %	No. of parts in line	Efficiency %
2	96.2	7	79.0
3	92.5	8	76.0
4	88.9	9	73.0
5	86.5	10	70.3
6	82.2		

Calculation of Added Tension

The added tension due to acceleration may be calculated by the formula:

$$F = \frac{MA \times \left(1+\frac{\text{100—block and falls efficiency}}{100}\right)}{\text{No. of parts of line in reeving}}$$

F = Tension (pounds).

m = Weight of load (pounds) divided by 32.2.

a = Acceleration in feet per seconds per second.

$$a = \frac{v}{t}$$

v = Maximum linear velocity, feet per second.

t = Time (seconds) necessary to bring load from state of rest to maximum speed.

The tension due to friction (f) may be closely estimated or found by the use of empirical formulas and the total tension on the rope will be equal to (T + F + f) pounds.

In bending around sheaves of normal diameter (discussed later) a wire rope loses about 5 per cent of its breaking strength due to the bending fiber stresses set up in the wires, and this should be taken into consideration before the final choice of rope is made. To obtain the required breaking strength the tension on the rope should be multiplied by the desired factor of safety.

After finding the desired breaking strength from manufacturers' catalogs, the user can determine the grade of wire rope to be used if the size is restricted by the sheave and drum sizes and grooving. Or he can determine the size and grade of wire rope required to accommodate the capacity of his hoisting drum or to fit in with other economical considerations of construction or equipment.

Bending Fatigue

Resistance to bending fatigue is dependent upon the grade (measured by tensile strength) and the size of the outer series of wires in each strand of the rope. Common grade standards of rope wire are:

	Lbs. per sq. in.
Cast steel	180,000 to 200,000
Mild plow or extra strong cast steel	200,000 to 230,000
Plow steel	210,000 to 250,000
Improved plow steel	240,000 to 270,000

The following table of normal sheave diameters has been compiled, taking into consideration that the resistance to bending fatigue is inversely proportional to the tensile strength (and in turn to the carbon and manganese content of the steel), and to the size of the outer wires in each strand:

NORMAL SHEAVE OR DRUM DIAMETER EQUALS THE CONSTANT MULTIPLIED BY THE ROPE DIAMETER

Grade—	6x19 Seale	6x16 with 5 fillers	6x19 with 6 fillers
Cast steel	28	25	22
Mild plow	30	28	24
Plow	34	30	26
Improved plow	37	33	29

Abrasion.—Resistance to wear is directly proportional to the tensile strength and to the size of the outer wires in each strand. Brinell hardness comparisons of the common rope wire grades manufactured may be made from the following table:

Grade—	Brinell hardness
Cast steel	380
Mild plow	415
Plow	445
Improved plow	460

Within the same grade the common construction of wire rope may be listed in the order of the greatest resistance to wear to the least resistance to wear in accordance with the accompanying table.

Resistance to distortion or crushing is inversely proportional to the number of strands in the rope and to the number of wires per strand.

Brings Out Larger Body

Comparison of cross sectional cuts of the six-strand rope with the eight-strand rope (Figure 7) brings out the relatively much larger body of hemp in the latter. The eight-strand rope will distort much more readily due to the application of crushing forces such as radial pressure of the rope traveling over a sheave or overwinding of the rope on the hoisting drum. Distortion of symmetry of cross section is always accompanied by the creation of uneven distances between strand centers and the axis of the rope, and as soon as this happens the load distribution between strands becomes uneven.

On rotary drilling equipment severe distortion of constructional symmetry is frequently caused by the development of severe radial pressure of one layer of rope on the supporting layer of rope on the drum and by the rope rounds crossing each other at the outer edges of the drum.

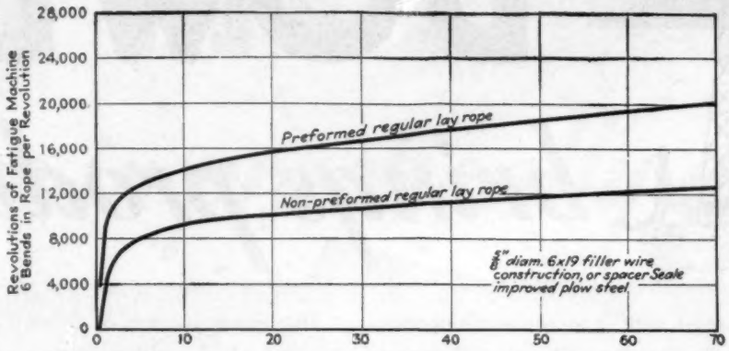


Figure 6. Life curves of regular and lang-lay wire rope obtained in fatigue tests over sheaves, as shown

The machining of spiral grooves on the face of a hoisting drum, compelling even winding, prevents distortion of the rope and increases its length of life.

Depth and Contour

Depths of grooves should be about 40 per cent of the nominal rope diameter, and the contour of the grooves should conform to the nominal diameter of the rope plus proper recommended clearances as follows:

Diameter rope—	Tolerance of groove diameters
1/2" and smaller	+1/32" min. to +3/32" max.
9/16" to 1"	+1/16" min. to +1/8" max.
1 1/16" to 2"	+3/32" min. to +3/16" max.

The greater the number of wires in a strand the greater is the tendency of the wires to slide by one another with the application of a compressive distorting force.

Radial crushing forces within a wire rope, created by the application of the load, may become so great that the hemp fibers will shear and pulverize, destroying all support to the strands. When this happens fatigue bending stresses are magnified on the crowns of the strands due to the strands coming together and crowding one another. Premature failure is usually the result of overloading wire rope. Frequently this happens even before the elastic limit of the steel in the rope has been reached. To overcome complete collapse of the hemp core at radial pressures of approximately 8,000 pounds per square inch it becomes necessary to replace the hemp core by an independent wire rope core—a small wire rope within a wire rope.

Conclusion

From the discussion of the controlling factors that govern the choice of wire rope, the proper selection of wire rope for the rotary rig becomes a comparatively easy problem. If, after selection, accurate records are kept on the behavior of the rope during service and also on the ultimate service rendered, it is not very difficult to make large and important savings in drilling costs.

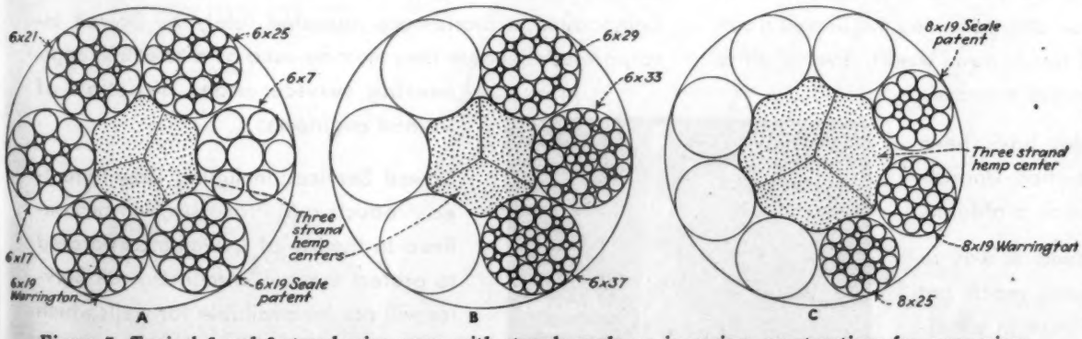


Figure 7. Typical 6 and 8-strand wire ropes with strands made up in various constructions for comparison

Owners of Pipe Lines to Make Separate Reports

Joint owners of pipe lines must make separate monthly returns under Section 731, "Transportation of Oil by Pipe Line," according to a ruling under Regulations 42, Article 44:

"Advice is requested," states the Bureau of Internal Revenue in making this ruling, "relative to who should file returns and pay the tax imposed under Section 731 (a) of the revenue act of 1932 on the transportation of oil by pipe line under the following circumstances: The X Pipe Line Co. and the Y Pipe Line Co. render a joint service covering a continuous movement over two lines. Question arises as to whether one company should report the tax on the entire movement and collect the proportionate sum from the other company, or whether each company should report the tax due on the movement over its line separately.

"The tax imposed under Section 731 (a) of the revenue act of 1932 is to be paid by the person furnishing the transportation service. Article 44 of Regulations 42 provides that every person required by the act to pay any tax on the transportation of crude petroleum and liquid products thereof by pipe line shall make a monthly return and pay the tax due, in accordance with the provisions of Article 46.

"Where a taxable joint service is rendered by two or more carriers of oil by pipe line, each carrier must return and pay the tax on the particular portion of the service rendered by it, based on the portion of the charge received by it for such service."

Texas Certified Service Now on Nationwide Basis

The Texas Company has extended its "Texaco Certified Lubrication Service" so that this feature of the company's activities is now operated on a national scale. Designed to establish definite and uniform standards of lubrication service at the company's stations, the service has been steadily extended since its inauguration.

Before a Texaco station operator is "certified" to give this lubrication operation, he receives a course of instruction from the company's engineers, and is taught how to lubricate the modern automobile, and the particular types of grease and oils to use for each operation.

The company conducts a regular follow up system, using the mails and telephone, to remind the motorist at regular intervals to keep his car properly lubricated. The service station operator is shown that the market for the sale of specialized lubrication service has scarcely been touched, and he is thus provided with an incentive to better his sales totals. The extension of this service on a nation-wide basis is being made the occasion of a national advertising campaign by the company.

A.P.I. ORGANIZATION MEETINGS

The executive committee of the American Petroleum Institute will meet at the Institute's headquarters, 250 Park Avenue, New York, on December 8. The committee will meet monthly to permit early discussion of current matters of interest. Meetings of the Institute's board of directors will be held quarterly hereafter instead of monthly. Department heads and executives of the Institute's staff will hold weekly meetings with president C. B. Ames presiding.

Oil field operators amazed

DOWELL

brings production

IN THE chemical treatment of rock to increase the production of its own brine wells, The Dow Chemical Company developed a method of increasing the flow from producing structures.

Acquaintances in oil fields adjacent to Dow brine wells heard of the process. They wondered if it would do the same to oil pay sands as it did to brine well producing strata.

Tests were made by technicians from the Dow laboratories. Results were startling. Production was increased in some wells up to 34 times.

One hundred consecutive wells tested showed increases in all but three. Many of these wells increased fifteen to twenty times the production after receiving the Dowell treatment and in the course of two to three weeks, leveled off to 500 per cent to 1000 per cent increase.

Dry holes in proven fields have been brought in for good production. Unprofitable wells have been made profitable.

Chemical science has found a way to go down into the ground, reach out its fingers through tight rock in all directions, into porous structure to increase oil recovery.

Great Benefits Bring Attendant Danger

In public announcement of the availability of this scientific service to the oil fields of the country, a warning is necessary.

The great success of Dowell Service applications has revived all the old acid and caustic treatments which were used as far back as 1896 and which are no more effective now than they were then.

Bootleggers in raw acid treatments are springing up like mushrooms, dumping various quantities of different acids into valuable wells, without relation to the geology, chemistry or physics involved in scientific rock reducing. Treatments are being offered by glib promoters without regard to the destruction of casings, tubing, casing seats or other equipment.

The oil well services developed in The Dow Chemical Company laboratories are operated solely by Dowell Incorporated, because they must be used as a scientific engineering service under direction of trained engineers.

Dowell Services, including Dow Patented Products and Processes, will be confined to the use of Dowell Incorporated to protect the well owner. Dowell Service will not be available for wells which have been treated by others.

97% of Wells Treated by Dowell Service Show Increase

Scientific Diagnosis The Basis of Dowell Service

Under no condition will wells be serviced by Dowell Incorporated, until after scientific diagnosis of the individual well, chemically, physically and geologically. On this basis, Dowell Service is offered.

DOWELL INCORPORATED • MIDLAND, MICHIGAN

Sole operator of The Dow Chemical Company Products and Processes to Increase Oil Production

at new development!

SERVICE

increase in practically all cases

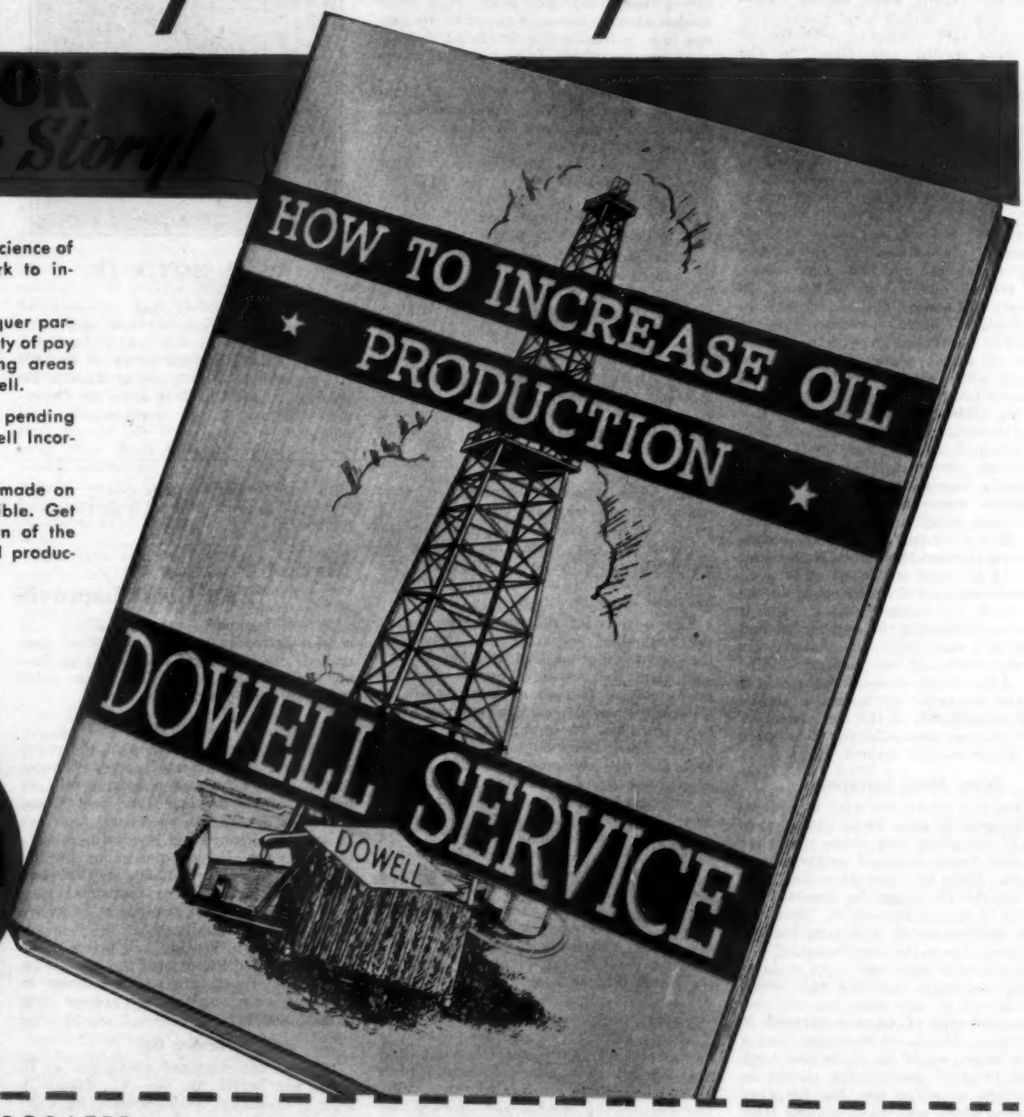
This BOOK tells the Story!

Its pages explain how the science of chemistry has gone to work to increase oil production.

It describes methods to conquer paraffin, to open up the porosity of pay sands, to enlarge producing areas for free flow of oil to the well.

Get this book and read it, pending the establishment of Dowell Incorporated, in your fields.

Diagnosis of wells will be made on request as rapidly as possible. Get the book today and learn of the newest developments in oil production practice.



Mail the COUPON today

DOWELL INCORPORATED
MIDLAND, MICHIGAN

Gentlemen: I am interested in your chemical processes to increase Oil Production. Please send me the book described above.

Name_____ Address_____

City_____ State_____

Island Is Constructed for Drilling in Pacific Ocean

(Continued from Page 13)

place through which the pile could be driven in every instance. A place for 16 pilings was accordingly fabricated. Centrally disposed of the corner piers are the eight piling of the central ring and within the eight of the central ring is the caisson. Each of the above elements had a place provided for it in the template. All the connecting members holding the pile and caisson keeper were electrically welded together so as to make one unit. This template was raised by the boom of the derrick barge and lowered to the floor of the ocean after which a diver went down to inspect and level it up. Each pile was then lowered to its respective place in the pattern and stabbed by the diver and driven to refusal. In consequence, symmetry was obtained. After the 24 piling were driven in the above manner the diving problem with its unending contingencies was overcome and an inspection showed that no pile was out of position.

The first clamp to which the sway bracing are attached is square and of sufficient area to encompass and surround the four piling of a corner pier. Within the clamp were welded three-quarter inch by 6-inch steel plates bent to surround each individual pile. Gusset plates were welded and fitted to the clamp and each gusset provided with a hole for the pin connecting the diagonal. This clamp was then raised by the derrick barge and fitted over the four piling of a corner pier. When all the piling were engated the clamp was lowered to the water's edge and held suspended there by means of a wire cable. The operation was repeated for all four piers. Next the diagonals of the lower bay were attached by means of pin connections. These diagonals were lowered and held with cables.

The central clamp was positioned 30 feet above the ocean. This clamp was an exact duplicate of the template lowered to the floor of the ocean with the added feature of gusset plates to which the diagonals were attached. This integral clamp was lowered over all the piling to the point where the diagonals were tied off and held in this position until they were attached. Both lower and center clamps were then cut loose and the entire bracing dropped to the ocean bottom. Two guides were then provided for the caisson, one being located on the ocean floor and one 30 feet aloft. The caisson was placed through this guide. No attempt was made to drive it for as each swell proceeded shoreward the caisson was rocked back and forth constantly and it worked itself through the overburden and into the soft shale itself. The caisson was later plummed and the conductor pipe driven. After being placed, the conductor pipe was cemented by using a tremie pipe. Meanwhile all of the steel members of the scupper deck and rig floor were being fabricated and welded.

Diver Aided Operations

A diver was sent down with two plates of steel for each pile. These plates were bolted to the piling just above the lower clamp and firmly fastened so they could not move. After this operation was completed on the 16 piling the bracing was ready to be placed in tension. This was done by coming up on long tongs on the turnbuckles. Upon the completion of this the structure became not only a load-carrying structure, but one that could not be moved in any direction and one with a minimum of surface exposed to wave action. Since the structure was a skeleton there would be a normal tendency to twist if eccentricity should be thrown into a corner pier but the steel diaphragm which acts as a scupper floor and a buffer of the waves prevents this turning by forming an enormous web over the rig area. The only difficulty experienced in the construction of this steel island was caused by the surging sea and ground swells, when the derrick barge was caught in a surge and the boom broken. This occurred at a most inopportune time as the construction crew was ready to move drilling equipment to the island. The company now had a steel island but no way of putting anything on it. It took considerable time to get straightened out after this mishap as equipment had to be towed from San Pedro, over 100 miles away, and the damaged boom repaired.

The novelty of this enterprise lay in the method of preparing the wharf and the rig foundation. All of the drilling equipment is standard except for the prime mover. Instead of using steam or electricity, seven gasoline engines have been installed. These engines are capable of developing from 50 to 120-horsepower each and will consume about 200 gallons of gasoline per day in the aggregate. As a safeguard against storms and heavy weather, and in the event of having a crew marooned, a bunk house has been constructed on the temporary false work. The initial hole on this lease is already well under way and the crew is doing the work with the same facility as though they were on dry land. The men are being transported back and forth between the General Petroleum pier and the island by means of a gasoline launch. All gasoline, supplies, bits and equipment are being transported in the same manner.

The Indian Petroleum's steel island is located about 1,800 feet farther out than the General Petroleum's Ferguson pier, along which there are located three wells. The engineering details were worked out by Robinson & Roberts, construction engineers of Los Angeles, who likewise were in charge of construction work. Actual construction of the island got under way August 18 and the entire job, including erection of the rig and installation of drilling equipment, was completed within 90 days. The cost approximated $75,000, or about $200,000 less than the expenditure which would have been required if it had been necessary to construct an approach wharf from the mainland.

W. R. Boyd, Jr. Convalescing in Texas Home After Threatened Breakdown

W. R. Boyd, Jr., executive vice president of the American Petroleum Institute, is convalescing at his farm home near Teague in Freestone County, Texas. Physicians attending Mr. Boyd announced Sunday that he has escaped a threatened collapse, due to strain of overwork, and expressed the belief that a few more weeks on his farm will restore him to complete vigor.

Because of his physical condition, Attorney General James V. Allred has consented to a postponement of the examination of Mr. Boyd as the principal witness before Special Commissioner George E. Spelley in the ouster suits against a group of oil companies and the American Petroleum Institute. Taking of testimony was to have been resumed at Austin on Monday, and although no date has been fixed for reopening the proceedings, Mr. Boyd's physicians said that if his progress continues they will consent for him to go to Austin after next Sunday and resume the witness stand on Tuesday, December 6. Mr. Boyd had been giving testimony for more than four weeks when a recess was taken to permit him to handle the details of the annual meeting of the Institute in Houston November 15, 16 and 17.

Previously he had spent weeks of night and day work in New York assembling and cataloging the exhibits demanded to be produced by Attorney General Allred in the state's suit under Texas antitrust laws for penalties aggregating $17,000,000 and seeking to drive from the state 17 oil corporations chartered or authorized to do business in Texas.

After an exhausting week in Houston Mr. Boyd was host, at his farm near Teague, during a three-day barbecue to a dozen members of the Institute's staff from the New York and Dallas offices, along with scores of his old neighbors. When his guests had gone he was so exhausted that physicians were called in and he was placed on a strict regime. Isolated from telephone, telegraph and mail service, Mr. Boyd received no guests until Sunday, when he was visited by Charles I. Francis of Wichita Falls, counsel for the Institute in the pending litigation; C. A. Young of Dallas, secretary of the division of production of the Institute, and Harry Benge Crozier, director of public relations.

In response to rumors that he intends severing his connection with the Institute to take up other work, Mr. Boyd told the

W. R. BOYD, JR.

members of his staff that on orders of his physician he was not now discussing any business plans, but was endeavoring to regain his strength so as to be able to complete his testimony at Austin. He will return to New York after the Christmas holidays if his testimony is completed by that time.

Market Position on East Coast Improves

(Continued from Page 23)

sene distribution through owned or controlled gasoline service stations is furnishing a record proportion of the total gallonage this year.

Heating Oils

While the easier position of the crude oil market has imparted some weakness to the market for heavy heating oils, no price changes developed at East Coast refineries during the week, and tank car business continued active. Refiners continued to post 5 cents per gallon for 36-40 oil, 4 cents for 32-36 gravity, and 3½ cents for 21 gravity industrial heating oil all in tank car lots f.o.b. refineries or terminals.

Tank wagon heating oil prices were also unchanged throughout the week, with marketers reporting a sharp increase in gallonage as a result of the present spell of cold weather.

Bunker Oil

The market remained unchanged at 75 cents per barrel for the "C" grade, in bulk at terminals, with consumption holding up fairly well. An easier undertone was apparent, however, and refiners were anxiously watching the crude price situation, which is the real barometer of the fuel oil market.

With bunker "C" oil available in cargo lots at 45 cents per barrel at the Gulf and 50 cents per barrel at California, the strength of the existing 75-cent market at principal East Coast ports is endangered. Gulf Coast fuel oil, for example, bought at 45 cents per barrel, could be laid down at East Coast ports at an attractive differential under the existing posted price here.

Diesel Oil

As is the case with bunker "C" oil, the Diesel oil market is responsive to the easier position of crude oil, and the outlook for maintenance of the present posted price of $1.65 per barrel in bulk at terminals is less favorable than has been the case during recent weeks.

Diesel oil from California and from the Gulf Coast can be laid down at Atlantic Coast ports at prices considerably under posted levels in this area, but owing to the exacting specifications of principal Diesel oil buyers in this territory, it is not expected that much outside oil could be successfully handled here.

Gas Oil

Gas oil from both California and the Gulf is coming into East Coast markets in competition with the product refined locally, and the market for this oil has consequently weakened.

Although East Coast refiners continue to quote 28 gravity plus recycled oil at 4 cents per gallon in tank car lots at refineries or terminals, actual going prices are fractionally under this figure, and it is considered possible that "official" posted prices may be reduced to 3¾ cents shortly.

Bunker "C" oil is being used in increasing quantities by gas manufacturing companies which formerly used gas oil exclusively in their manufacturing operations.

Lubs

The cylinder oil market has failed to rally, either in price or demand, and quotations were again lower this week under some selling pressure and continued lack of export buying. Refiners have apparently abandoned their efforts to stabilize the market at recent quotations, and are showing more willingness to make concessions to meet with bids.

Current prices are one-half cent per gallon lower on all grades for the week, the market being quoted, f.a.s. New York, in barrels, as follows: 600 filtered, 22 cents per gallon; 600 Warren E, 19 cents; 600 s.r. unfiltered, 17 cents; 650 s.r. unfiltered, 18½ cents; 600 flash s.r., 19½ cents; 630 flash s.r., 24 cents; bright stock, No. 8 color, 24½ cents; bright stock, No. 6½ color, dil., 24 cents.

Industrial demand for red and pale oils continues along routine lines, with consumers showing a tendency to taper off in their purchases owing to the imminence of their annual year-end inventories. Prices are unchanged on all grades. In the textile field, continued large-scale operations by rayon manufacturers and knitters has made for a well-sustained demand for lub oils, but in other industrial divisions demand is disappointing.

Wax and Petrolatum

Further price changes were lacking in the paraffin wax market last week, which was a rather dull affair throughout, with the general tone rather soft. Domestic consumers are taking stocks only in limited volume, and recent export inquiries for both crude scale and fully refined grades has not been followed up by the anticipated business.

In the petrolatum market, there was a fair tonnage reported during the week under review, but shipments were confined principally to deliveries against standing contracts, and little new business developed on the spot position during the period. Posted prices remained unchanged on all grades.

A. L. ELLETT DIES

SHREVEPORT, La., Nov. 28.—Anthony L. Ellett, formerly foreign representative for the Lucey Manufacturing Co. of Houston, but of recent years an independent operator in the North Louisiana-Arkansas territory, died November 19 at a local sanitarium.

Leon County Test Most Watched in East Texas; Completions and Locations Register Decline

By L. E. BREDBERG

DALLAS, Tex., Nov. 28.—Completions and locations dwindled in East Texas during the week, the former falling to 81 and the latter to 83, seven of which were wildcats, leaving only 76 for the field proper. This is the smallest number of starters reported in a long time.

Daily average distribution ran nearly 348,000 bbls. for the week ending November 24, or approximately 17,000 bbls. less than nominations submitted to the commission.

A water report for the field up to October 16 showed a total of 174 wells making or having made various percentages of salt water, divided by areas as follows: Cherokee County, 2; South Rusk, 28; Smith County (Joiner area), 25; North Rusk (Kilgore), 36; South Gregg, 43; North Gregg, 4; Upshur County, 36.

There are 117 pumpers in the Joiner area, 29 agitating and flowing, and 8 dead, a total of 154 in that area. In the Kilgore area there are 26 pumpers, 5 agitating and flowing and 7 dead. In the Longview area there are 11 pumping, 5 agitating and flowing and 8 dead. Total number of pumpers, agitating and flowing wells and dead wells for the three areas numbers 216.

An outpost test on the west side of the field, approximately 1 mile west of production, Smith County, was abandoned at a total depth of 3,829 feet. This test was drilled by Allen and Alexander of Arp, and is located on the J. O. Allen 25-acre tract in the M. G. Heriquez Survey. Elevation is 468 feet.

Shallow Producers

Last week another shallow producer was reported in north Gregg County, located on the Humble Oil & Refining Co.'s A. Carter lease in the D. Ferguson Survey. The Railroad Commission formerly ordered three other shallow producers shut in in this area until split casing in a nearby well could be pulled and other casing run to prevent seepage and migration of oil up through water sands. Unable to correct this seepage oil the commission seems to have reversed its attitude and has granted permits for three more shallow wells on the lease, and many such shallow wells may be expected throughout the field. Shallow wells are given the same allowable as those drilled to the regular pay level, and if they are successful in picking up such shallow seepage oil they prove of great profit to their owners.

Setting split or perforated joints of casing so that oil may migrate upward to shallow sands, to which shallow wells may be drilled giving a lease greater allowable than otherwise would be gained by straight drilling to the regular pay, may become a practice in the field. If the commission does not grant permits for drilling such shallow wells, such a practice may be checked immediately.

Total recovery for the entire field, up to and including November 14, 1932, was 215,428,000 bbls. divided as follows in the three areas: Joiner, 72,078,000 bbls.; Kilgore, 76,729,000 bbls.; Longview, 66,621,000 bbls.

Salt Water Showings

Some 20 odd wells have shown salt water on the east side of the Kilgore area, northern Rusk and southern Gregg Counties, but one company holding leases in this area will test the Blossom sand in an effort to determine whether the water is coming from that sand.

Reasons for water showing on the east side of this area are summed up as follows: It is the narrowest part of the field, extending only 3 miles from west to east. Magnolia Petroleum Co.'s No. 1 Florey, located on the west side of the area, was the first well to show salt water, with several others nearby soon after. The area has been heavily produced and has a high density of wells drawing heavily on the sands, giving great opportunity for the water to migrate across the narrow stretch from the west side.

Leon County

Shell Petroleum Corp., Penn Oil Co. and others' No. 1 Phillips, in the E. H. Swayze Survey, on the large block of acreage near the town of Centreville in Leon County, again came to the fore this week assuming a new appearance when it cored what was reported to be a richly saturated oil sand.

Cap rock was cored from 6,052-54 feet, broken saturated sand was cored from 6,054-57 feet, hard saturated sand was logged from 6,057-61 feet where full recovery of the core was obtained. No recovery was made from 6,061-67 feet, core cutting same as from 6,057-61 feet. From 6,067-70 feet the core was recovered, one foot of which showed saturated sand and 2 feet of black shale. From 6,070-78 feet black shale was reported. Seven-inch casing was cemented at 6,052 feet.

Last week saturations were reported to have been logged at a couple of points, but tests proved the hole to contain nothing more than mud. Corings this week renewed interest in the test which now has possibilities of making a producer. However, at this depth it will take a heavily saturated thick body of sand to flow the wells.

The test has been one of the most closely watched wildcats in the East Texas district, due to its geological importance, located on the southern end of the Woodbine sand sector and the large block of acreage held by the associated companies interested in the well.

"Dad" Joiner Enters Suit

C. M. (Dad) Joiner, discoverer of the Joiner Field, South Rusk County, which led to the opening of the East Texas Field, has entered suit against H. L. Hunt, individually and as trustee, H. L. Hunt Production Co., and P. G. Lake, seeking a judgment of $15,000,000 or the cancellation of leases which he alleges he signed after the developments of the Deep Rock Oil Co.'s westward extension to his well had been withheld from him as the result of his having been kept in conferences in the rooms of a Dallas hotel while drilling operations were in progress in November, 1930.

The action was filed in the fourth district court and involves a considerable part of the Joiner area. Conferences and negotiations were named by Mr. Joiner as the reason for him being held in the hotel, instead of under duress as many might understand when first reading of or hearing of the case. He also declared that there was no personal animosity toward the defendants, but that he merely felt he had been deprived of extensive earnings that should have been his.

Although many suits have been filed on account of faulty titles, unheard of heirs popping up after leases were signed, and many other usual occurrences which take place to start lawsuits over leases and royalties in fields, this is the first of its kind to be recorded in the East Texas situation.

Wildcatting Activities

Barclay and others have staked location for their No. 1 J. C. Beard in the J. Trimmer Survey and are now rigging up for a Woodbine sand test. This is in Anderson County.

George Beasley has location staked for No. 1 Francis Borck test in No. 11 League grant in Ellis County, and the Superior Oil Co. of California is moving in rig on an important location on the Cole and Faulk farm in the H. Z. Farmer Survey, 1½ miles northwest of Shell Petroleum Corp.'s dry hole near LaRue in Henderson County. The Shell test was one of the most interesting tests drilled in the district, and this second test will be an exceptionally interesting one.

E. P. Corley has taken over E. L. Chapman's No. 1 Jumper test shut down at 250 feet in the J. Webb Survey, Hopkins County, and is preparing to carry it to the Woodbine sand.

Denny and others' No. 1 Cole is another Hopkins County wildcat. It is drilling below 1,700 feet and is 2½ miles northwest of Pickton in the N. J. Beasley Survey.

Johnson Drilling Co. has made a location on the Antone farm, 19 miles north of Clarksville in the R. Gamble Survey, Red River County, and Hudson's No. 1 Jeff Phillips in the M. Villarea Survey, Rusk County, is drilling below 1,110 feet.

Fred Shields and Florence Oil Co.'s No. 1 R. L. Buckner in the John E. Davis Survey, a wildcat in Rusk County, has been abandoned at a total depth of 4,285 feet. Joiner and others also abandoned their No. 1 C. J. Jackson in the Henry Mickleborough Survey, Smith County, at a total depth of 4,045 feet.

Ajo Oil Co. of Fort Worth has assembled a block 2 miles northwest of the recently abandoned Burnham No. 1 Weiss test in Bowie County and may announce location later.

L. L. Donnell and B. A. Hampton have taken approximately 4,800 acres of a proposed 5,500-acre block for a 3,000-foot or Georgetown lime test to be started by January 1, 1933. This block centers in the A. Leach Survey, adjoining the town of Carthage on the north.

COMPLETIONS IN EAST TEXAS

North Gregg County

Jim Cloud and others' No. 2 E. E. Anderson, top sand 3,644 feet, initial production 25 bbls. in 10 minutes through 1-inch tubing choke, total depth 3,680 feet. East Texas Refining Co.'s No. 7 A. C. Christian, top sand 3,636 feet, initial production 40 bbls. in 50 minutes through 1½-inch tubing choke, total depth 3,662 feet; No. 7 W. G. Hindman, top sand 3,622 feet, initial production 27 bbls. in one-half hour through 1-inch tubing choke, total depth 3,648 feet. Humble Oil & Refining Co.'s No. 8 T. M. Armstrong, top sand 3,575 feet, initial production 93 bbls. per hour through three-quarter inch tubing choke, total depth 3,610 feet; No. 10 T. M. Armstrong, top sand 3,583 feet, initial production 90 bbls. per hour through three-quarter inch tubing choke, total depth 3,602 feet; No. 13 Holland, top sand 3,598 feet, initial production 96 bbls. per hour through three-quarter inch tubing choke, total depth 3,629 feet; No. 9 M. Killingsworth, top sand 3,537 feet, initial production 78 bbls. per hour through three-quarter inch tubing choke, total depth 3,594 feet; No. 3 Jenny Watson, location abandoned. T. D. Humphrey's No. 2 F. P. Branson, top sand 3,621 feet, initial production 100 bbls. per hour through 2½-inch open tubing, total depth 3,631 feet. S. H. Killingsworth's No. 1-B State, top sand 3,460 feet, initial production 120 bbls. per hour through open 2-inch tubing, total depth 3,605 feet.

Magnolia Petroleum Co.'s No. 7 E. H. Brawley, top sand 3,508 feet, initial production 156 bbls. per hour through 2-inch tubing, total depth 3,618 feet. Pitkin & Gohlson's No. 3-A M. Bonner, top sand 3,609 feet, initial production 125 bbls. per hour through open 2-inch tubing, total depth 3,817 feet. Roeser & Pendleton's No. 5 Satterwhite, top sand 3,670 feet, initial production 100 bbls. per hour through 2-inch open tubing, total depth 3,687 feet. Shell Petroleum Corp.'s No. 8 H. Hampton, top sand 3,616 feet, initial production 20 bbls. in one-half hour through tapered tubing, total depth 3,681 feet; No. 21 J. Moore, top sand 3,545 feet, initial production 18 bbls. in one-half hour through tapered tubing, total depth 3,555 feet; No. 22 J. Moore, top sand 3,557 feet, initial production 16 bbls. in one-half hour through tapered tubing, total depth 3,566 feet; No. 23 J. Moore, top sand 3,556 feet, initial production 18 bbls. in one-half hour through tapered tubing, total depth 3,563 feet.

South Gregg County

D. & H. Oil Co.'s No. 1 Perry Howard, top sand 3,608 feet, initial production 60 bbls. per hour through three-quarters inch tubing choke, total depth 3,635 feet. Gulf Production Co.'s No. 16 G. W. Culver, top sand 3,547 feet, initial production 50 bbls. per hour through three-quarters inch tubing choke, total depth 3,565 feet; No. 5 G. Davis, top sand 3,586 feet, initial production 82 bbls. per hour through three-quarters inch tubing choke, total depth 3,594 feet; No. 4 S. B. Hall, top sand 3,653 feet, initial production 75 bbls. per hour through three-quarters inch tubing choke. Hughes and Foley's No. 4 Adkins, top sand 3,625 feet, initial production 45 bbls. in 30 minutes through open tubing, total depth 3,637 feet. Humble Oil & Refining Co.'s No. 10 J. A. Knowles, top sand 3,541 feet, initial production 50 bbls. per hour through three-quarters inch tubing choke, total depth 3,624 feet. Jones and O'Brien's No. 11 Hughey-Ross, top sand 3,514 feet, initial production 30 bbls. in 25 minutes through 1-inch tubing choke, total depth 3,568 feet.

Magnolia Petroleum Co.'s No. 2 H. P. Hale, top sand 3,538 feet, initial production 37 bbls. in 15 minutes through 1-inch tubing choke, total depth 3,575 feet; No. 1 E. Prothro, top sand 3,635 feet, initial production 112 bbls. per hour through 1-inch tubing choke, total depth 3,641 feet; No. 3 R. H. Rowland, top sand 3,525 feet, initial production 40 bbls. in 55 minutes through open tubing, total depth 3,575 feet. Pierce and Moore's No. 1 J. S. and F. Elder, top sand 3,537 feet, initial production 35 bbls. per hour through three-quarters inch tubing choke, total depth 3,588 feet. Rajo Oil Corp.'s No. 5 McCormick, top sand 3,711 feet, initial production 30 bbls. per hour through open tubing, total depth 3,714 feet. Rhoads Drilling Co.'s No. 2 Sabine River, top sand 3,530 feet, initial production 30 bbls. in 30 minutes through 1-inch tubing choke, total depth 3,551 feet. Ruston Drilling Co.'s No. 2 Sabine River, top sand 3,557 feet, initial production 100 bbls. per hour through open tubing, total depth 3,564 feet. Sam P. Shelburn's No. 3 Crim Mercantile, top sand 3,710 feet, initial production 24 bbls.

per hour through one-quarter inch tubing choke, total depth 3,712 feet.

Shell Petroleum Corp.'s No. 16 W. W. Elder, top sand 3,519 feet, initial production 25 bbls. in 30 minutes through tapered tubing, total depth 3,578 feet; No. 24 J. B. Watson, top sand 3,541 feet, initial production 17 bbls. in 30 minutes through tapered tubing, total depth 3,619 feet. Sinclair Prairie Oil Co.'s No. 27-B A. A. King, top sand 3,474 feet, initial production 40 bbls. in 15 minutes through open tubing, total depth 3,515 feet; No. 2-B A. A. King, top sand 3,467 feet, initial production 31 bbls. in 15 minutes through open tubing, total depth 3,492 feet. Sun Oil Co.'s No. 7 Calvin Brown, top sand 3,563 feet, initial production 50 bbls. per hour through tapered tubing, total depth 3,620 feet. Y. Oil Co.'s No. 2 Davis, top sand 3,618 feet, initial production 70 bbls. per hour through three-quarters inch tubing choke, total depth 3,626 feet.

North Rusk County

Acme Oil Co.'s No. 1 C. Bean, top sand 3,580 feet, initial production 70 bbls. per hour through three-quarter inch tubing choke, total depth 3,640 feet. Barnsdall Oil Co.'s No. 2 Gill, top sand 3,618 feet, initial production 25 bbls. in one-half hour through open tubing, total depth 3,621 feet. Carl Dunham's No. 3-A Scroggins, top sand 3,665 feet, initial production 45 bbls. per hour through three-quarter inch tubing choke, total depth 3,670 feet. East Texas Refining Co.'s No. 4 West Andy Givens, top sand 3,652 feet, initial production 40 bbls. per hour through tapered tubing, total depth 3,672 feet. Humble Oil & Refining Co.'s No. 3 Ben Peterson, top sand 3,500 feet, initial production 45 bbls. per hour through three-quarter inch tubing choke, total depth 3,600 feet. Luling Oil & Gas Co.'s No. 2 Burton, top sand 3,667 feet, initial production 78 bbls. in one-half hour through 1-inch tubing choke, total depth 3,695 feet. Wheelock & Collins' No. 12 D. Wells, top sand 3,635 feet, initial production 45 bbls. per hour through three-quarter inch tubing choke, total depth 3,658 feet.

South Rusk County

Belrice Oil Co.'s No. 4 C. Young, top sand 3,653 feet, initial production 80 bbls. per hour through 2-inch tubing choke, total depth 3,691 feet. Dyck Oil Co.'s No. 2 C. O. Crim, top sand 3,810 feet, initial production 25 bbls. in one-quarter hour through three-quarter inch tubing choke, total depth 3,821 feet. Everetts Drilling Co.'s No. 1-B Joe Lee, top sand 3,760 feet, initial production 40 bbls. in one-half hour through 1-inch tubing choke, total depth 3,764 feet. Gulf Production Co.'s No. 6 A. H. Rayford, top sand 3,734 feet, initial production 55 bbls. per hour through three-quarter inch tubing choke, total depth 3,738 feet. John Hoosier's No. 5-B Eaton, top sand 3,738 feet, initial production 75 bbls. per hour through open 2-inch tubing choke, total depth 3,758 feet.

Humble Oil & Refining Co.'s No. 11-A A. D. Blackwell, top sand 3,641 feet, initial production 33 bbls. in one-half hour through tubing choke, total depth 3,644 feet; No. 7-B A. D. Blackwell, top sand 3,641 feet, initial production 31 bbls. in 20 minutes through three-quarter inch tubing choke, total depth 3,662 feet; No. 3 Leah Hill, top sand 3,721 feet, initial production 73 bbls. per hour through three-quarter inch tubing choke, total depth 3,741 feet; No. 7-A H. A. Piercy, top sand 3,705 feet, initial production 49 bbls. per hour through three-quarter inch tubing choke, total depth 3,725 feet; No. 26 W. L. Price, top sand 3,720 feet, initial production 57 bbls. per hour through three-quarter inch tubing choke, total depth 3,807 feet; No. 10 J. H. Wooley, top sand 3,668 feet, initial production 40 bbls. in one-half hour through three-quarter inch tubing choke, total depth 3,688 feet. Hunt Production Co.'s No. 8-B Bradford, top sand 3,632 feet, initial production 40 bbls. in four hours pumping, total depth 3,702 feet; No. 1-F Bradford, top sand 3,530 feet, initial production 40 bbls. in three hours pumping, total depth 3,624 feet. Kimble & Acre's No. 2 E. B. Alford, top sand 3,585 feet, initial production 15 bbls. in 40 minutes through 2-inch open tubing, total depth 3,648 feet.

Mid-Kansas Oil & Gas Co.'s No. 7 G. W. Moores, top sand 3,668 feet, initial production 64 bbls. per hour through 2-inch lead, total depth 3,673 feet; No. 8 G. W. Moore, top sand 3,669 feet, initial production 98 bbls. per hour on 2-inch open lead, total depth 3,678 feet. W. F. Reynolds' No. 1 J. H. Henson, top sand 3,520 feet, initial production 70 bbls. in 12 hours through 2-inch tubing, by heads, total depth 3,628 feet.

Sibling & Williams' No. 1 Goforth, top sand 3,766 feet, initial production 51 bbls. in one-half hour through open 2-inch tubing, total depth 3,773 feet. Sinclair Prairie Oil Co.'s No. 12-A Peter Tipps, top sand 3,629 feet, initial production 90 bbls. in one-half hour through open 2-inch tubing, total depth 3,632 feet. Southern Interstate Oil Co.'s No. 3 Giles, top sand 3,669 feet, initial production 45 bbls. in 45 minutes through 1-inch choke and 2½-inch tubing, total depth 3,694 feet. Stanolind and Pure Oil Co.'s No. 36 W. H. Siler, top sand 3,649 feet, initial production 40 bbls. in 2 hours and 6 minutes through open 2½-inch tubing, total depth 3,695 feet; No. 37 W. H. Siler, top sand 3,687 feet, initial production 40 bbls. in 3 hours and 50 minutes through three-quarter inch tubing choke, total depth 3,731 feet; No. 38 W. H. Siler, top sand 3,608 feet, initial production 40 bbls. in 50 minutes through open 2½-inch tubing, total depth 3,673 feet. Sun Oil Co.'s No. 4 Alfred Lee, top sand 3,660 feet, initial production 21 bbls. per hour through open 2½-inch tubing, total depth 3,661 feet. The Texas Company's No. 7 W. W. Henry, top sand 3,623 feet, initial production 97 bbls. per hour through open 2-inch tubing, total depth 3,630 feet. Tidal Oil Co.'s No. 5-A Thompson, top sand 3,650 feet, initial production 13 bbls. in 15 minutes through 2-inch open tubing, total depth 3,676 feet. Grady Vaughan's No. 6 Alford, top sand 3,829 feet, initial production 90 bbls. in one-half hour through open 2½-inch tubing, total depth 3,835 feet.

Upshur County

Heydrick and Camp Drilling Co.'s No. 1 Shelton, top sand 3,729 feet, initial production 25 bbls. in one-quarter hour through eleven-sixteenths inch tubing choke, total depth 3,738 feet. Manson Oil Co.'s No. 5 T. A. Webb, top sand 3,690 feet, initial production 160 bbls. per hour through 2½-inch tubing, total depth 3,725 feet. Rodgers Brothers' No. 2 E. H. Bramley, top sand 3,636 feet, initial production 25 bbls. in one-quarter hour through 2-inch tubing, total depth 3,645 feet. Simms and Russ' No. 10 J. J. Flewellen, top sand 3,679 feet, initial production 40 bbls. in 20 minutes through 2½-inch open tubing, total depth 3,689 feet. Stroube & Stroube's No. 2 Mackey, top sand 3,576 feet, initial production 50 bbls. per hour through tapered tubing, total depth 3,583 feet.

Smith County

Gronn & Gracy's No. 2 M. L. Thompson, top sand 3,648 feet, initial production 40 bbls. in one-quarter hour through 2½-inch open tubing, total depth 3,654 feet. Golden Eagle Oil Co.'s No. 1 T. B. Collier, location abandoned; No. 1 E. E. Moore, location abandoned. Gulf Production Co.'s No. 7 Jack Wiley, top sand 3,798 feet, initial production 70 bbls. per hour through three-quarter inch tubing choke, total depth 3,804 feet.

R. S. Monroe and others' No. 3 H. Robinson, location abandoned. Weaver-Crim Oil Co.'s No. 3 Stone Fee, top sand 3,743 feet, initial production 27½ bbls. in one-quarter hour through eleven-sixteenths inch tubing choke, total depth 3,747 feet.

East Central Texas Wildcats

Week Ending November 28

Company, well, farm name, section and block—	Remarks:
ANDERSON COUNTY	
Barclay et al's No. 1 J. C. Beard, 150 ft. out of most westerly NE cor. of 178-ac. lease, J. Trimmer Sur.	Rig up.
W. H. Rosier's No. 1 W. H. Henke, 45,115 varas S and 294 varas W of NE cor. of Blk. No. 12, Anderson County School Lands Sur.	Top Woodbine sand 4,771 ft.; top Red Beds 5,118 ft.; T.D. 5,183 ft.
C. R. Wilmuth et al's No. 1 N. B. Watson, 500 ft. from W line and 4,850 ft. from N of S line of survey in S½ of 128-ac. tract, M. Main Sur.	T.D. 1,538 ft.
ANGELINA COUNTY	
Crosbie et al's No. 1 John C. Davis, 150 ft. from N of center of tract and survey, John H. Graham Sur.	S.D. 610 ft.
W. J. Chandler's No. 1 L. J. Dearman, 350 ft. from S and W lines of 20-ac. tract, J. T. Peavy Sur.	S.D. 1,223 ft.
BOWIE COUNTY	
Roy Anderson's No. 1 Dyke, 2 miles W of Texarkana, M. Dykes Sur.	Coring 2,829 ft.; tested; drlg. 2,816 ft.
Tom Bell et al's No. 1 C. M. Moss, 1,800 ft. from N line and 2,160 ft. from W line of 465-ac. tract and survey, O. D. Walton Sur.	Derrick.
CHEROKEE COUNTY	
Barkley Tate et al's No. 1 H. E. Neal, 330 ft. from N and W lines of tract, J. M. Prosella Sur.	Derrick.
Bridges and Candler's No. 1 Berryman, center of Berryman tract, H. Kimble Sur.	S.D. 1,550 ft.
Davis et al's No. 2 Annie Kelly, 631 ft. W of No. 1, M. De Los Santos Coy Sur.	Derrick.
Hooper et al's No. 1 Doctor Overton, 330 ft. from N and E lines of tract and 330 ft. out of most easterly NE cor. of survey, Wesley Dikes Sur.	Set surface csg.
L. J. Hopcroft et al's No. 1 J. R. Taylor, 2,600 ft. from E line and 2,000 ft. from S line of survey, G. M. Doherty Sur.	Location.
Loring Oil Co.'s No. 1 F. M. Swearingen, 330 ft. from S and E lines of 68-ac. tract, 2,800 ft. from W line and 330 ft. from S line of survey, Oliver Lund Sur., 1 mile SW of Maydelle	T.D. 3,570 ft.; straightening hole.
Mid-Kansas Oil & Gas Co.'s No. 1 J. A. Layne, 316 ft. from N line and 330 ft. from W line of lease, M. D. L. S. Coy Sur.	Rig up.
Mid-Tex Oil Co.'s No. 1 A. Pace (formerly Clopton), 288 ft. from N line and 330 ft. from most northerly E line of 40-ac. lease, Wesley Dikes Sur.	S.D. 3,665 ft.
Wilson & Stubbs' No. 1 L. Robert, 450 ft. from S and 150 ft. from W line of lease, J. B. Wolfin Sur.	Prepare to deepen; T.D. 3,600 ft
DELTA COUNTY	
Commerce Oil Co.'s No. 1 Ablowich, 150 ft. from S line and 776 ft. from W line of H. D. Jewett 53-ac. tract, E. Chick Sur.	S.D. 3,813 ft.
Joiner et al's No. 1 Blackwell, 990 ft. S and 150 ft. from E lines of 275-ac. tract, Dunnetelle Sur.	S.D. 3,355 ft.
ELLIS COUNTY	
Armstrong's No. 1 Milton Cook, SE cor. of 50-ac. tract, S. Frederick Sur.	S.D. 375 ft. (corrected).
Armstrong Bros.' No. 1 Reeves	S.D. 300 ft.
Armstrong Bros.' No. 1 John Lee Winn, 1,650 ft. from E and 150 ft. from S of Orland, Orlo Wheeler Sur.	S.D. 1,435 ft.
George Beasley's No. 1 Francis Borck, 350 ft. from SW line and 350 ft. from S and E lines of tract and grant, 11 League grant	Location.
Clark Brooks' No. 1 Anderson, SE cor. of 2,900-ac. tract, 10 miles SW of Waxachachie, E. C. Branch Sur.	S.D. 1,050 ft.
Paris Oil Co.'s No. 1 O. S. Bain, 1,500 ft. from S line and 300 ft. from W line of 60-ac. lease, R. M. Williams Sur.	S.D. 985 ft.
FRANKLIN COUNTY	
Tom Harper's No. 1 fee, 150 ft. from N line and 200 ft. from E line of 116-ac. tr., W. M. Dawson Sur.	Fishing for liner; T.D. 3,404 ft.
FREESTONE COUNTY	
Clyde Creighton's No. 1 Holley Bros., 854 ft. from W line and center of N and S lines of lease, A.B.M. Sur.	S.D. 3,669 ft.
GREGG COUNTY	
M. G. Blalock's No. 1 State, center of Mineral Sur.	Waiting on cmt. to set; T.D. 3,440 ft.
H. Brunson's No. 1 A. Sanders, center of tract No. 105, M. V. Winkle Sur.	Derrick.
D. F. Buffington's No. 1 S. L. Dansby, 150 ft. from S line and 1,700 ft. from E line of 30-ac. lease, W. P. Chisum Sur.	Drlg. 3,713 ft.

(Continued on Page 42)

Van Pool—Van Zandt County

Pure Oil Co.'s No. 6 R. E. Cade, initial production 68 bbls., total depth 2,951 feet.

ROCKY MOUNTAIN RUNS

Average daily pipe line runs from fields in the Rocky Mountain territory for the week ending November 26 follow:

	Bbls.
WYOMING	
Salt Creek	20,930
Big Muddy	1,850
Badger Basin	50
Byron-Garland	1,020
Byron (East)	80
Dallas-Derby	480
Dutton Creek	80
Elk Basin	540
Ferris	20
Frannie	570
Grass Creek	1,320
Greybull	10
Hamilton Dome	800
Hudson	380
LaBarge	1,250
Lance Creek	110
Lost Soldier	2,099
Midway	110
Oregon Basin	700
Osage	1,040
Pilot Butte	30
Rock River	1,040
Poison Spider	70
Teapot	20
Total Wyoming	34,590
MONTANA	
Buckley-Border	570
Cat Creek	820
Cut Bank	80
Dry Creek	280
Kevin-Sunburst	3,250
Lake Basin	50
Pondera	1,370
Total Montana	6,420
COLORADO	
Florence	270
Fort Collins and Wellington	740
Iles Dome	560
Moffat	650
Orchard	170
Rangely	100
Tow Creek	260
Total Colorado	2,750
NEW MEXICO	
Artesia	475
Caprock	620
Hogback	390
Jal	1,023
Rattlesnake	745
Table Mesa	75
Eunice	517
Hobbs	24,986
Lea	2,235
Texas-Pacific	85
Total New Mexico	31,151
Total Rocky Mountain area	74,911
Total previous week	74,286
Difference	625

WILDCAT COMPLETIONS

Freestone County

J. K. Hughes and others' No. 1 Oliver Burleson, top Austin chalk 2,845 feet, base 3,297 feet, dry and abandoned, total depth 3,738 feet, Wiley Carter Survey.

Rusk County

Fred Shields and Florence Oil Co.'s No. 1 R. L. Buckner, top Pecan Gap 3,220 feet, base 3,590 feet, top Austin chalk 4,035 feet, base 4,195 feet, dry and abandoned, total depth 4,285 feet, John E. Davis Survey.

Smith County

Joiner and others' No. 1 C. S. Jackson, base Pecan Gap 3,710 feet, dry and abandoned, total depth 4,045 feet, Henry Mickleborough Survey.

Open Third Pool in Ector County, West Texas; Interesting Tests in Howard and Mitchell

By L. E. BREDBERG
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Nov. 28.—L. C. Harrison, Fred Turner and others' No. 1 Addis, in Section 35, Block 43, Township 2s, T.&P. Survey, Ector County, opens a new pool in this county, but at the present time is not appearing as more than a 100-bbl. well while drilling deeper from 3,880 feet. However, it has over 100 feet to drill before striking water and is expected to pick up heavier saturation, proving for a much better well than it now is making. Gravity of the oil is only 29°, an oil similar to that found in the Deep Rock wells to the northwest in Andrews County, wells which were exceptionally small, and never gained an outlet for that reason. Gas decreased upon drilling deeper, falling off from around 6,500,000 feet to 2,000,000 feet at the present depth, which gives it a less favorable appearance.

It opens the third pool for Ector County, the first important discovery in the past two years, West Texas having received but little attention from wildcatters during this time, East Texas detracting from the important part it formerly played in oil development and production in Texas.

Heavier saturation may be encountered during the next few days' drilling, and the well will be closely watched for future results of such drilling.

L. C. Harrison and Mrs. Dora Roberts each hold a quarter interest in the block, and Fred Turner of Midland holds the other half interest. The Stanolind Oil & Gas Co. and Humble Oil & Refining Co. hold several adjoining and surrounding sections. Other sections near the well are divided into smaller leases, which are held by various companies and individuals.

Howard Wildcat

A wildcat test for Howard County is to be drilled by the Southern Oil Corp. in Section 43, Block 30, Township 1n, T.&P. Survey, 1 mile east of Oklahoma, subject to approval of titles, the test to be spudded by the middle of December. This location will throw the test 4 miles west and slightly north of the Dodge-Denman Pool in the eastern part of the county.

Garza County

The same company is moving in a machine in the old Boren Field of Garza County, location for the test falling in Section 36, Block 5, H.&G.N. Survey.

Mitchell County

An Ordovician test is rumored for Mitchell County, and may be located on a 9,000-acre block which Paul Teas of San Antonio, formerly of Colorado, Tex., has been assembling approximately 7 miles northeast of the Westbrook Pool, and the same distance north of the town of Colorado.

Several tests have been drilled to the regular Mitchell County horizon in the vicinity of this large block, consequently the belief has arisen that a deeper test is to be made on the block which lies in parts of the C. A. O'Keefe Subdivision, G. Y. M. Williams, George J. Reiger and C. H. McGinnis and Kirkland and Fields Surveys. Also in Block 26 and 27, T.&P. Survey; Block 97, H.&T.C. Survey, and Block 3, H.&G.N. Survey.

Teas and Wheeler drilled a dry hole in Section 82, Block 97, H.&T.C. Survey; Zoch and others completed a failure in Section 138, Block 3, H.&G.N. Survey; Fensland and others completed a "duster" in Section 62, Block 97, H.&T.C. Survey.

The nearest Ordovician test to this area is now drilling in northeast Fisher County. The test is owned by Cranfill & Reynolds and is on the George ranch in Section 200, Block 1, B.B.B.&C. Survey. It is now drilling below 6,400 feet in a 3-inch hole.

There is also one drilling in Section 67, Block UV, G.C.&S.F. Survey, in Crockett County. Stanolind Oil & Gas Co. and several other companies are interested in this test. It is now drilling below 6,825 feet.

Concho County

Mintex Oil Co.'s No. 1 Waring estate in Section 163, T.&N.O. Survey, Concho County, also came in for considerable interest this week when the hole filled 1,300 feet with fluid, 200 of which was water Tubing and rods have been run preparatory to making a pumping test.

Sandy lime was logged in the well from 2,578-80 feet, and when the test was shut down at the latter depth bailing failed to lower the column of fluid, therefore the owners decided to make a pumping test. This is the most interesting test and showing made in this county during the past 3½ years, and, although other tests in the area also had good gas and oil showings, they failed to qualify as commercial producers. This latest test may possibly prove to be the forerunner of production for the county.

Deepest in Texas

The deepest test in Texas is Big Lake Oil Co.'s No. 1-C University in the Big Lake Field, Reagan County. It is now drilling below 9,400 feet, averaging a little over 15 feet per day.

Wildcat Operations in West Texas

Week Ending November 28

BORDEN COUNTY

Company, well, farm name, section and block—	Remarks:
Westyde Investment Co.'s No. 1 Looney, 990 ft. from S and E, Sec. 15, Blk. 31, Twp. 4n. T.&P. Sur.	S.D. 3,502 ft.

BREWSTER COUNTY

Brewster Oil Co.'s No. 1 fee, 2,640 ft. S and 2,598 ft. E of NW cor., Sec. 45, Blk. G-15, G.C.&S.F. Sur.	S.D. 1,935 ft.
E. L. Chapman's No. 1 Skinner, C SW SE Sec. 100, Blk. 2, G.C.&S.F. Sur.	S.D. 1,302 ft.
Joiner's No. 1 McIntire, 553 ft. from S and 2,390 ft. from E, Sec. 31, Blk. 352, W. J. Mitchell Sur.	S.D. 425 ft.; pulling csg. 400 ft.
Trans-Pecos Oil & Gas Co.'s No. 1 Jones, 936 ft. from N and 2,500 ft. from E of Sec. 18, Blk. G-15, G.C.& S.F. Sur.	S.D. 2,900 ft.
Van McPhail's No. 1 McIntyre, SE cor. Sec. 59, Blk. 352, 7 miles south Alpine	S.D. 1,750 ft.

CONCHO COUNTY

Beasley et al's No. 1 Waring Estate, 400 ft. from N and E, Sec. 163, T.&N.O. Sur.	T.D. 2,580 ft.; putting on pump; 1,300 ft. fluid in hole, 200 ft. water.
Simmons et al's No. 1 Schultz, 150 ft. from W and center N and S of E half of J. Weber Sur., Abst. 154.	S.D. 1,410 ft.

CRANE COUNTY

Gulf Prod. Co.'s No. 10 McElroy, 1,320 ft. from S and E Sec. 196, Blk. F	Drlg. 1,530 ft.

(Continued on Page 44)

COMPLETIONS IN PANHANDLE DISTRICT

Gray County

Sid Richardson's No. 1 Wright, dry and abandoned, total depth 2,965 feet. Skelly Oil Co.'s No. 7 Saunders, top pay 2,680 feet, initial production 744 bbls. first 24 hours on gas lift, total depth 2,768 feet. The Texas Company's No. 13 Williams, top pay 2,642 feet, initial production 941 bbls., total depth 2,757 feet.

Hutchinson County

Holmes and Newblock's No. 2 Moore-Langdon, top pay 3,022 feet, initial production 200 bbls., total depth 3,109 feet.

COMPLETIONS IN WEST TEXAS

Garza County

Southern Oil Corp.'s No. 1 Reed, location abandoned.

Howard County

Witherspoon and others' No. 2 Abrams, top pay 2,369-75 feet, initial production 780 bbls., total depth 2,432 feet.

Pecos County

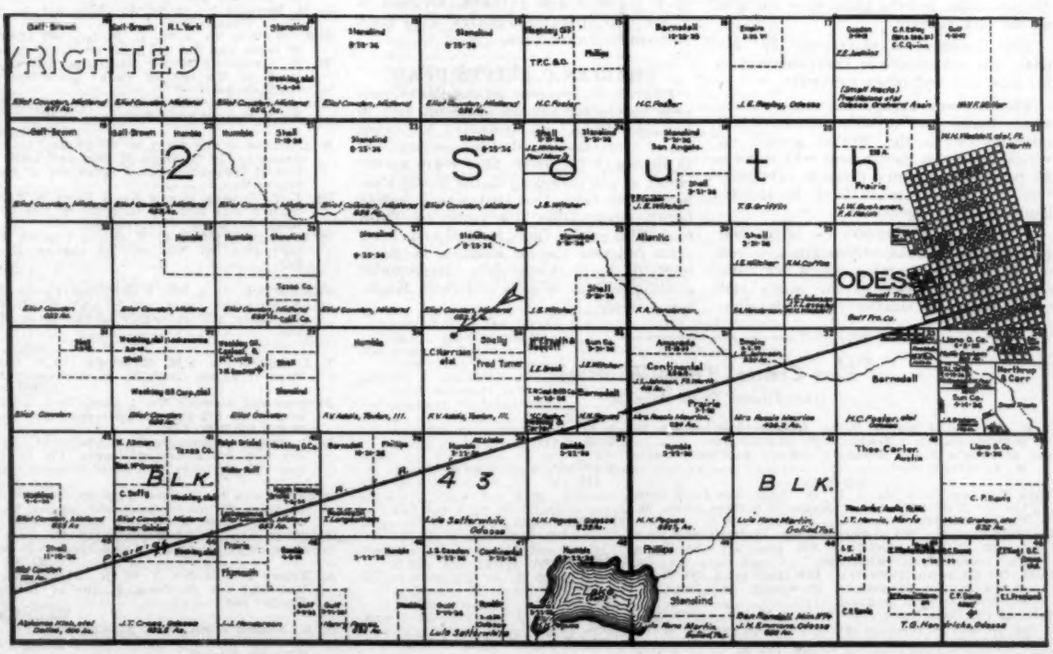
Aero Gas & Refining Co.'s No. 3 Burns, dry and abandoned, total depth 1,507 feet. Stanolind Oil & Gas Co.'s No. 8-B Tippett, top pay 378 feet, initial production 30 bbls. first 12 hours, total depth 383 feet. Cardinal Oil Co.'s No. 3-K Tippett, top pay 315 feet, initial production 10 bbls. pumping, total depth 428 feet, plugged back to 383 feet.

Ward County

Stanolind Oil & Gas Co.'s No. 1 Grimes, top pay 2,435 feet, initial production 100 bbls. first 12 hours, total depth 2,475 feet.

Menard County

Priest and others' No. 1 Sorrel, temporarily abandoned, total depth 2,980 feet.



—Map courtesy Zingery Oil Map Co.

Map showing location of latest potential field opener in the Permian Basin, West Texas. L. C. Harrison and others' No. 1 Addis, located in Section 35, Block 45, Township 2 south, T. & P. survey, Ector County. The well is located two miles east of Weekly Oil Corporation's gasser, 10 miles northeast of the Penn Pool and 14 miles south of Stanolind Oil and Gas Company's producers on the Cowden Ranch

Hebron Field, Potter County, Pa., Has Gas Potential of 88,250,000 Feet

BY SPECIAL CORRESPONDENT

COUDERSPORT, Pa., Nov. 26.—The seventh big gas well in the Hebron Field, Potter County, was completed this week when the Allegheny Gas Co.'s No. 1 Carpenter opened the Oriskany sand pay and produced 7,250,000 feet of gas the first 24 hours. This brings the total open flow capacity of the field to 88,250,000 feet per day. Hungiville and others have two wells on the Sam Booth farm good for 15,000,000 feet; the Wyago Gas Co. has two on the Tassell farm estimated at 42,000,000 feet; Williamsport Natural Gas Co. one with a capacity of 16,000,000 feet, and G. K. Rogers and others, one which is good for 8,000,000 feet.

The Wyago Gas Co.'s No. 2 Tassell, which has been blowing wild for some time is expected to be shut in before the close of the month. Patrick Fitzstephens and his crew started running 4½-inch pipe inside the 6-inch pipe, which parted about 300 feet below the surface, the heavy flow of gas blowing pipe and control head high in the air, wrecking the derrick and other parts of the rig. The 4-inch pipe is provided with packer at its base, but an effort will be made to cement between the 4 and 6-inch pipe. This well is estimated as high as 22,000,000 feet per day.

J. Brooke Reid and others' No. 1 Champlin is drilling below 4,100 feet. It is said this test is running low and Oriskany sand gas pay is expected around 5,400 feet.

The Allegheny Gas Co. in its new gasser on the Carpenter farm found the top of the Oriskany sand at 4,870 feet and was less than 10 feet in the sand when the big gas flow started.

Cunningham and others have started drilling No. 1 John Moran in Oswayo Township, close to the New York state line. It is a real wildcat and is regarded as a very important test.

Hungiville and others are drilling below 1,400 feet in No. 1 Sturdevant in the Hebron Field.

The Sylvania Co. has a rig up on the Homer Phelps farm in the Hebron Field. It is reported Phelps was offered $70,000 for his farm.

In Tioga County, the Elkland Oil & Gas Co.'s No. 1 Van Dusen is held up by a fishing job at 4,440 feet.

Leland C. Wright will drill for gas on Vasbinder Flats, Addison Township, Steuben County, New York, and has a rig on the location.

Completing Arrangements for B. O. D. Iraq Line

A Berlin report to the New York Journal of Commerce said the Mosul Oilfield Co., Ltd., has completed arrangements to exploit the oil concessions of the British Oil Development Corp. in Asia Minor. Extensive pipe line construction in the Near East is to start immediately.

The English Thomas Brown interests, which have participations in both enterprises, has arranged to turn over its contractual rights to deliver steel tubes for pipe lines and other supplies to a German manufacturing group including Otto Wolff, the Mannesmann Tube Works, the United States Steel Works and the Good Hope Iron & Steel Works. Originally Krupp was to participate instead of Mannesmann, but the plans were changed at the last moment.

The German manufacturers, by this deal, will participate in enormous orders for pipe line and other materials.

The German group, for these rights, must make an advance of 1,000,000 reichsmarks to the Brown group, on which the Reich government will make a 50 per cent guaranty through participation of the acceptance bank in the financing of the operation.

A total of 40,000,000 to 50,000,000 reichsmarks of tube orders are involved in the deal. Remaining needs for tube tools, field railways, harbor works and tankers will be smaller than this sum. Of these orders a total of 36 per cent will go to the German companies, 12 per cent to the French and Swiss and 25 per cent each to the Italian and English. It is possible that the Italian group will turn over to the German half of their orders.

W. L. SUTTON ELECTED

SISTERSVILLE, W. Va., Nov. 28.—The directors of Petroleum Exploration, which has large holdings in Kentucky, Texas, Ohio, New Mexico and Indiana, have elected W. L. Sutton of Sistersville president to succeed the late A. E. Durham. W. H. Fitzgerald of Columbus, Ohio, was elected vice president.

The board declared a dividend of 1 per cent and an extra dividend of one-half of 1 per cent, payable December 15 to stockholders of record on that date.

The Wiser Oil Co. declared a dividend of 1 per cent and an extra dividend of 1 per cent, payable January 1 to stock of record at that time.

CHARLES C. SUPPES DEAD

Charles C. Suppes, retired Mid-Continent contractor and oil operator, died in Sapulpa, Okla., on Saturday, November 26, of heart disease. Mr. Suppes had been in ill health for about four years as the result of gas poisoning in the Texas Panhandle oil field. Deceased was a native of Cameron, Ohio. He came to Tulsa from Woodsfield, Ohio, in 1907 and thereafter followed the oil business in many fields in the southwest as a contractor or wildcatter. Mrs. Suppes and three daughters survive.

East Central Texas Wildcats

(Continued from Page 40)

J. W. Crockett's No. 1 B. D. Russell, NW offset to Schulman's No. 1 Doris, M. V. Winkle Sur. ..... Drlg. 3,470 ft.

Ray Dawson's No. 1 Mitchell, center of 2.1-ac. tract, M. V. Winkle Sur. ..... Waiting on cmt. to set; T.D. 3,610 ft.

Delta Drilling Co.'s No. 1 L. D. Crim, 200 ft. S and 180 ft. E of SW cor. of Magnolia's Hale lease, M. V. Winkle Sur. ..... Running csg.; T.D. 3,551 ft.

Joe Edgar et al's No. 2 Stinchcomb, 79 ft. N and 26.4 ft. W of most northerly SW cor. of Stanolind's Key lease, W. H. Hart Sur. ..... Moving in.

Faith Oil Co.'s No. 3 Barrett, 289 ft. N and 268 ft. E of SE cor. of Stanolind's Flewellen "A" lease, B. W. Witcher Sur. ..... Rig up.

Farland Oil Co.'s No. 1, 128 ft. from W line and center of N and S lines of 6-ac. Cemetery tract, J. R. Rigsby Sur. ..... Derrick.

Fontain and Denton's No. 2 Beele, 183 ft. from S line and 187 ft. from E and W lines of lease, G. W. Hooper Sur. ..... Derrick.

Foundation Oil Co.'s No. 3 L. Willis, 150 ft. from S line and 315 ft. from E line of 13.5-ac. lease, G. W. Hooper Sur. ..... T.D. 3,580 ft.

Lewis Godlin's No. 1 E. L. Walker, 330 ft. N of road, 330 ft. from E line of 80.2-ac. tract, M. Dillard Sur.... Derrick.

Rose V. Glasscock's No. 2 Church Lot, 103 ft. from E line of lease and center of old highway, W. H. Castleberry Sur. ..... Derrick.

Groveman and Dorian's No. 2 State, center of Mineral Sur. ..... Top Pecan Gap 2,440 ft.; T.D. 2,630 ft.

Guinn Petroleum Co.'s No. 1 J. S. and F. Elder, 200 ft. NE of Solar's No. 1 Elder, and 450 ft. SE of Martin's No. 1 Elder, M. V. Winkle Sur. ..... Derrick.

Gulf Production Co.'s No. 2 J. C. Clayborn, 385 ft. N and 100 ft. W of SE cor. of 20-ac. lease, L. Beaty Sur. ..... Location.

A. B. Hancock's No. 2 L. H. Brawley, 550 ft. E of No. 1 P. McAnnelly Sur. ..... Waiting on cmt. to set; T.D. 3,469 ft.

Humble Oil & Refining Co.'s No. 3 H. Castleberry, 135 ft. from S line and 330 ft. from W line of lease, B. N. Hampton Sur. ..... Top Pecan Gap 2,387 ft.; T.D. 2,513 ft.

Jones and O'Brien's No. 2 J. Prothro, 500 ft. W of No. 1 and center of N and S lines, J. Blair Sur. .... Top Austin chalk 3,605 ft.; T.D. 3,642 ft.

J. J. Jordan's No. 1 E. L. Walker, 660 ft. W of SE cor. of lease and 155 ft. from S line and 155 ft. from river, E. A. Lambert Sur. ..... Top sand 3,583 ft.; base 3,590 ft.; bailing; T.D. 3,605 ft.

Kinnebrew and Simpson's No. 2 R. B. Walls, center of E and W lines of lease and N offset to The Texas Company's No. 6 Walls ..... Drlg. 500 ft.

Edwin Lacy's No. 2 fee, center of 1½-ac. tract, M. V. Winkle Sur. ..... Location.

J. M. Lapin's No. 1 fee, 437 ft. S and 224 ft. E of NE cor. of Humble's Knowles lease in 1.09-ac. tract, M. V. Winkle Sur. ..... Derrick.

Lee Bros.' No. 1 Sam Kay, 100 ft. NE of McCormick's No. 1 Kay and 1,165 ft. N and 150 ft. E of SW cor. of survey, L. J. Rigsby Sur. ..... Fishing for drill stem; T.D. 3,560 ft.

H. H. LeMasters' No. 2 W. T. Thompson, 90 ft. from S line and 70 ft. from W line of Blk. No. 151, M. V. Winkle Sur. ..... Waiting on cmt. to set; T.D. 3,509 ft.

Luttes et al's No. 1 Register, 330 ft. from S line and center of E and W lines of 13-ac. lease, G. F. Penn Sur. ..... Waiting on cmt. to set; T.D. 3,615 ft.

Madalyn Oil Co.'s No. 1 J. V. Rossen, 550 ft. N and S and 100 ft. E and W of tract, T. Johnson Sur. ..... Waiting on cmt. to set 105 ft.

Magnolia Petroleum Co.'s No. 1 Viola Wells, 330 ft. from N line and 187 ft. from W and E lines of 18.7-ac. lease, L. B. Outlaw Sur. ..... Rig up.

Moore et al's No. 1 Crim, 100 ft. S of Vance & Fagin's No. 1 Crim, M. V. Winkle Sur. ..... Derrick.

Mullendore and Berry's No. 2 G. Davis, 330 ft. from S line and center of E and W lines of 10-ac. tract, W. P. Chisum Sur. ..... Waiting on cmt. to set; T.D. 3,590 ft.

V. J. Pearson's No. 1 J. A. Butts, 400 ft. SW and 75 ft. NW of SE cor. of Butts tract, M. V. Winkle Sur. .... Rig up.

George Pendegrast's No. 1 R. Lacy, center of 2.25-ac. tract, M. V. Winkle Sur. ..... Top Pecan Gap 2,480 ft.; T.D. 2,500 ft.

Rancho Oil Co.'s No. 2 J. M. Wheeler, E offset to Pelphrey Bros.' No. 1 Wheeler, D. Ferguson Sur. .... Rig up.

Red Star Oil Co.'s No. 4 Christian, 225 ft. from N line and 175 ft. from E line of lease, G. W. Hooper Sur. ..... Drlg. 300 ft.

Rhoades Drilling Co.'s No. 10 Sabine River (Tract No. 4), 375 ft. from No. 9 and 400 ft. from No. 11, State Sur. ..... Driving piling.

Rhoades Drilling Co.'s No. 5 Sabine River (Tract No. 5), 2,180 ft. N from No. 1 and 1,000 ft. E of Sun's No. 3 Cole ..... Rig up.

Rhoades Drilling Co.'s No. 3 Sabine River (Tract No. 7), 2,310 ft. from E line and 2,390 ft. from W line ..... Driving piling.

Roeser & Pendleton's No. 2 S. D. Smith, 290 ft. from S line and 330 ft. from E line of lease, W. H. Castleberry Sur. ..... Derrick.

A. Snyder's No. 1 H. Adkins, 1,800 ft. from S line and center of a tract being N of S line of 5.37 acres of 9.37-ac. tract, Lot No. 2, D. Dainwood Sur. ..... Testing; T.D. 3,630 ft.

South Gulf Prod. Co.'s No. 1 Cemetery, 225 ft. NW of Barnsdall's No. 1 McGrede, on one-half acre lease, D. Sanches Sur. ..... Temp. abnd. 200 ft.

J. B. Sowell's No. 2 W. P. Luce, 378 ft. W of No. 1, E. L. Walker Sur. ..... Derrick.

Sun Oil Co.'s No. 3 W. L. Fuller, 359 ft. from W line of lease and 660 ft. S of No. 1, D. Sanches Sur. .... Testing; T.D. 3,674 ft.

W. C. Turnbow's No. 2 McKinley, 125 ft. N and 420 ft. E of NE cor. of Yount Lee's Harley lease, D. Sanches Sur. ..... Derrick.

Universal Oil & Gas Co.'s No. 2 Adkins, 750 ft. S of No. 1, D. Dainwood Sur. ..... Rig up.

HENDERSON COUNTY

B. L. Green et al's No. 1 M. H. Gussett (old well drilled deeper), 150 ft. from N line and 1,000 ft. from W line of 105.5-ac. tract, 3 miles SW of Mabank, L. D. Stover Sur. ..... S.D. 3,328 ft.

Dr. J. T. Kennon et al's No. 1 Rowe & Baker, 1,320 ft. from N line and 150 ft. from W line of survey and tract, Josiah T. Childress Sur. ..... S.D. 920 ft.

H. H. Meyer's No. 1 M. E. Olson, 2 miles S of Brownsboro tract in NW cor. of survey, George Wilson Sur. ..... T.D. 3,719 ft.; steel line measurements.

Superior Oil Co.'s No. 1 Cole and Faulk, 330 ft. from N line and center of E and W lines of survey, 1½ miles NW of Shell's LaRue lease, H. Z. Farmer Sur. ..... Moving in rig.

HILL COUNTY

T. J. Spikes' No. 1 M. H. Davis, 150 ft. from S and E lines of 55-ac. tract, H. R. Alexander Sur. ..... Running liner 1,550 ft.

HOPKINS COUNTY

Burgess and Sinson's No. 1 First Natl. Bank, 470 ft. N and W of SE cor. D. Buie Sur., but located in the H.E.P.&P.R.R. Sur. ..... S.D. 1,190 ft.

E. F. Corley's (formerly E. L. Chapman) No. 1 Jumper, old well being drilled deeper, 175 ft. from N line and 285 ft. from W line of tract, J. Webb Sur. .... Prepare to resume operations; T.D. 250 ft.

Denny et al's No. 1 Cole, 1,000 ft. from N line and 330 ft. from W line of tract and survey, 2½ miles NW of Pickton, N. J. Beasley Sur. ..... Drlg. 1,700 ft.

Roark et al's No. 1 Taylor, 220 ft. from N and W lines of 80-ac. tract, in the John Polk Sur. ..... S.D. 500 ft.

HUNT COUNTY

A. Kelsey et al's No. 1 W. R. Berry, 450 ft. from S line and 300 ft. from E line of 139-ac. tract, J. Roads Sur. ..... Location.

KAUFMAN COUNTY

P. L. Meader's No. 1 T. C. Coleman, 673 ft. from S line and 460 ft. from W line of 259-ac. tract, W. G. Gibbard Sur. ..... Drlg. 3,090 ft.

T. L. Wynn et al's No. 1 J. A. Nash, 2,800 varas from NW line and 2,850 varas from NE line of survey, Trevins Sur. ..... Drlg. 1,920 ft.

LAMAR COUNTY

Doyle and Jondeau's No. 1 Martin, 990 ft. from N line and 330 ft. from E line of tract, Joseph Deck Sur. ..... Rig up; T.D. 2,446 ft.

LEON COUNTY

Allsday et al's No. 1 W. R. Thompson, 990 ft. from N line of survey and 330 ft. from E line of 98-ac. tract, N. M. Allen Sur. ..... S.D. 2,170 ft.
Shell-Penn & Black's No. 1 W. M. Phillips ..... S.D. 6,077 ft.

LIMESTONE COUNTY

Miller Drilling Co. and Joiner's No. 1 J. A. Stephenson, 400 ft. from S line and 300 ft. from E line of lease, one-fourth mile SE of Kosse, Charles Welch Sur. ..... S.D. 3,110 ft.

MORRIS COUNTY

Grover Hart's No. 1 Walcott and Lott, 490 ft. from N line and 330 ft. from E line of survey, 3 miles S of Carson, B. A. Russell Sur. ..... S.D. 1,550 ft.
Joiner & Harris Drilling Co.'s No. 1 Clayton Brown, 1,625 ft. N. of most easterly SW cor. of survey, William M. Coffey Sur. ..... Derrick.
Leonard's (Tucker-Fullwood) No. 1 P. M. Staggers, 450 ft. from N line and 1,190 ft. from E line of 65.5-ac. tract, J. D. Nelson Sur. ..... Pulled tubing; T.D. 3,672 ft.

POLK COUNTY

Cannon et al's No. 1 Roberts, 10 miles N of Livinston, Romera Sur. ..... Rig up and shut down.

RED RIVER COUNTY

Concord Oil Co.'s No. 1 J. R. Dallas Unit, 500 ft. from N of Isaac Moore Sur. and 200 ft. E of E line of Robert Glenn Sur. ..... Drlg. 2,755 ft.
Johnson Drilling Co.'s No. 1 Antone, 2,960 ft. from S line and 600 ft. from E line of survey, 19 miles N of Clarksville, R. Gamble Sur. ..... Location.
L. G. Priest's No. 1 R. W. Peck, 900 ft. N and 500 ft. S of southerly SE cor. of 220-ac. tract, A. Wagley Sur. ..... Derrick material.

ROCKWALL COUNTY

Bucanner Oil Co.'s No. 1 H. L. Lofland, center of 69-ac. tract in W. M. Bird Sur. ..... Set 10-in. csg. 130 ft.

ROBERTSON COUNTY

Everts Drilling Co.'s No. 1 Cook ..... Drlg. 1,420 ft.

RUSK COUNTY

T. C. Adams' No. 1 N. L. Marwell, 540 ft. N and 330 ft. E of NE cor. of Arksnasa Marwell tract on 19.77-ac. lease, T. H. Smith Sur. ..... T.D. 3,705 ft.; prepare to test.
Big Indian Oil Co.'s No. 1 Joe Lee, 172 ft. from S line and 990 ft. from W line of 24-ac. lease, Peter Tipps Sur. ..... Swabbed; failed to flow; 1,200 ft. oil in hole; T.D. 3,646 ft.
Bodine et al's No. 1 G. W. Cooper, 1,760 ft. N and 330 ft. E of SW cor. of Ximenes Sur. ..... Rig up.
P. D. Bowlen's No. 1 N. L. Marvill, 20 ft. from N and S lines and 1,050 ft. from E and W lines of tract, M. J. Pru Sur. ..... Waiting on cmt. to set 3,647 ft.
S. Brackman's No. 2 W. O. Alfred, 330 ft. from N line and center of E and W lines of 11-ac. lease, F. Cordova Sur. ..... Bldg. derrick.
A. P. Cary's No. 1 Redwine, 150 ft. from N and W lines of Lot No. 7 on 5-ac. lease, Juan Ximenes Sur. ..... Spudding.
T. E. Castle's No. 1 R. H. Gary estate, 3,960 ft. from N line and 5,280 ft. from W line of survey, 10 miles S of Henderson, A. Latham Sur. ..... S.D. 3,812 ft.
Carl Dunham's No. 2-A Scroggins, midway between No. 1 and No. 3 and center of E and W lines of lease, W. A. Elliott Sur. ..... Derrick.
Gant and Garwin's No. 1 Jerry Simmons, 330 ft. from N and W lines of 52.5-ac. lease, M. V. Pena Sur. .... Washing in; T.D. 3,636 ft.
Gulf Production Co.'s No. 2 O. R. Baton, 703 ft. along E line of lease from NE cor. of same and 403 ft. W at right angles, Mary Cogswell Sur. ..... Drlg. 1,630 ft.
Harris and Russell's No. 1 T. W. Harris, 330 ft. from S line and 660 ft. from W line of most southerly SW cor. of 160-ac. tract, 3 miles SW of Henderson, W. G. Davis Sur. ..... Derrick.
Hathaway et al's No. 1 Gray, J. M. McLain Sur. ..... S.D. 3,905 ft.
H. B. W. Oil Co.'s No. 1 Redwine, 330 ft. from N and W lines of 63-ac. lease, Juan Ximenes Sur. ..... Drlg. 800 ft.
Hudson's No. 1 Jeff Phillips, 150 ft. from N line of survey and 640 ft. from W line of 100-ac. tract, 4 miles SE of Minden, Nepomucene Villarea Sur. .... Drlg. 1,110 ft.
Humble Oil & Refining Co.'s No. 1 C. H. Hedge, 330 ft. from S and W lines of 103-ac. lease, J. C. Barnett Sur. ..... Rig up.
Iotex Oil Co.'s No. 3 Tom Beall, W offset to Ward Oil Co.'s No. 3 Beall, P. W. Holmes Sur. ..... Derrick.
Iowa-Payne Oil Co.'s No. 1 W. A. Frederick, 150 ft. from E line of lease and 330 ft. W of Smith & Sikes' No. 1 Frederick, I. G. Parker Sur. ..... Drlg. 1,000 ft.
J. Jeagen's No. 1 Needham, 330 ft. from N line of lease and 330 ft. from NE and 400 ft. from SE of survey, J. H. Chambers Sur. ..... S.D. 1,414 ft.
Killum and Gibbs' No. 1 Bradford, SW offset to Hunt's No. 2-A Bradford and 150 ft. S of road, Juan Ximenes Sur. ..... Top sand 3,598 ft.; T.D. 3,610 ft.; waiting on standard rig.
Kimble & Acre's No. 1 Frederick, 150 ft. from S line and center of E and W lines of 10-ac. lease, Juan Ximenes Sur. ..... Derrick.
Lucy Petroleum Co.'s No. 2 Gill, 330 ft. from S and W lines of lease, W. A. Elliott Sur. ..... Waiting on cmt. to set; T.D. 3,708 ft.
C. H. Lyons' No. 2 Moore, 660 ft. E of No. 1 and center of N and S lines of lease, L. B. Pena Sur. ..... Top sand 3,561 ft.; T.D. 3,582 ft.
Marr Drilling Co.'s No. 2 John Rettic, 330 ft. from N and W lines of 180.56-ac. tract, J. H. Sparks Sur. ... Pecan Gap 2,661-3,080 ft.; Top Austin chalk 3,463 ft.; T.D. 3,500 ft.
Orr et al's No. 1 J. C. Hale, 590 ft. E and 330 ft. S of NW cor. of 50-ac. tract, M. V. Pena Sur. ..... Bldg. derrick.
Overton Refining's No. 2 Maxwell, 70 ft. S of J. E. Oliver's No. 1 G. Pool, F. Cordova Sur. ..... Rig up.
Paulett et al's No. 1 Ed Sparks, 350 ft. from E. 150 ft. from S of survey, L. C. Riggs Sur. ..... S.D. 1,465 ft.
R. O. Payne's No. 1 Redwine, 200 ft. from N and W lines of Lot No. 3, Juan Ximenes Sur. ..... Rig up.
Sandifer et al's No. 1 L. J. Pinkston, S offset to Champlin and Bass' No. 1 Pinkston, J. B. De Cadena Sur. ..... Derrick.
Ross Seward's No. 1 Burton, J. J. Y'Barbo Sur. ..... T.D. 3,387 ft.
Smith and Sikes' No. 1 Frederick, 150 ft. S of SE cor. of E. D. Oil Co.'s Alford lease, I. G. Parker Sur. ..... Waiting on standard rig; T.D. 3,685 ft.
Southern Oil & Refining Co.'s No. 2 I.&G.N.R.R., 200 ft. E and 50 ft. S of NE cor. of W. R. Cooke Sur., W. A. Elliott Sur. ..... Derrick.
Stanolind Oil & Gas Co.'s No. 1 J. W. Ashby, 330 ft. from N and W lines of 107.6-ac. tract, Milton Walker Sur. ..... Top sand 3,688 ft.; base 3,718 ft.; plugged back to 3,659 ft.; waiting on cmt. to set.
Tatum-Oliver-Spradner's No. 2 Brightwell, W offset to their No. 1, R. W. Smith Sur. ..... Spudded.
The Texas Company's No. 2 G. G. Turner, 878 ft. from S line and 195 ft. from W line of lease, T. H. Smith Sur. ..... Derrick.
Tidal Oil Co.'s No. 3 O. Whittington, 330 ft. from N line and 165 ft. from E line of lease, John Darley Sur. ..... Testing; T.D. 3,632 ft.

SMITH COUNTY

Boucher-Owen and McCulloch's No. 1 Beulah Means, 2,775 ft. from S line and 330 ft. from E line of lease, E. Daniels Sur. ..... S.D. 1,300 ft.
Cockburn and Hooker's No. 2 Lula Jackson, 330 ft. from S and E lines of 76-ac. lease, E. Daniels Sur. .... Rig up and S.D.
Amalgamated Oil Co.'s No. 6 Cook, 330 ft. from N line of lease and midway between Nos. 3 and 4, J. Jordan Sur. ..... Waiting on cmt. to set; T.D. 3,718 ft.
W. T. Graham's No. 1 Cooke, 400 ft. N and 36 ft. W of SW cor. of Sinclair Prairie's Dora Wright 162.2-ac. tract, Juan Vargas Sur. ..... Derrick.
Hooper et al's No. 1 Lula Jackson, 330 ft. S and 530 ft. E of most northerly SW cor. of Monroe Shell Robinson lease, E. Daniels Sur. ..... S.D. 3,815 ft.
Johnston and Owens, trustee's No. 2 Wolford, 330 ft. from N line and 104 ft. from W and E lines of lease, J. Jordan Sur. ..... Top Pecan Gap 2,707 ft.; T.D. 3,882 ft.
Alex McCutchin's No. 1 Jessie Cole, 108 ft. from S line and 110 ft. from E line of 1.27-ac. lease, J. Jordan Sur. ..... Waiting on cmt. to set; T.D. 3,776 ft.
McRabie et al's No. 1 C. P. Hamilton, 330 ft. from S and E lines of 255-ac. tract, Jackson Rector Sur. .. Rig up and S.D.
Mid-Kansas Oil & Gas Co.'s No. 8 J. H. Sharp, 316 ft. from S line and 4,603 ft. from E line of lease, M. D. L. S. Coy Sur. ..... Derrick.
Mundt et al's No. 1 W. E. Murray, 330 ft. from S and E lines of lease, 5 miles SE of Tyler, Marshall Wynn Sur. ..... Cleaned hole.
Sinclair Prairie Oil Co.'s No. 6 Patterson, 330 ft. from N and W lines of lease, J. Vargas Sur. ..... Waiting on cmt. to set; T.D. 3,519 ft.
Sun Oil Co.'s No. 18 O. W. Knight, between No. 4 and No. 12 and 831 ft. W of No. 4, D. Collins Sur. ..... Testing; T.D. 3,634 ft.
Sun Oil Co.'s No. 2 Hudnott and Melton, 330 ft. from N and E lines of 137.5-ac. lease, M. D. L. S. Coy Sur. ..... Derrick.
The Texas Company's No. 7 M. Blackwell, 1,160 ft. from N line and 330 ft. from W line of lease, J. Jordan Sur. ..... Top Austin chalk; T.D. 3,689 ft.
Ed Wallace et al's No. 1 Jessie Cole, 150 ft. from S line of lease and due W offset to Smith's No. 1 Cole on 10-ac. lease, J. Jordan Sur. ..... Top Austin chalk 3,623 ft.; S.D. 3,700 ft.

TITUS COUNTY

Perry V. Cook's No. 1 M. C. Rogers, center of SW of Moore Sur. ..... T.D. 4,212 ft.

UPSHUR COUNTY

F. Buttram's No. 1 D. F. Smith, S offset to E. L. Smith's No. 1 Watts, C. H. Cooper Sur. ..... Derrick.
Conservative Oil Co.'s No. 2 Eva O'Byrne, 330 ft. from S and E lines of lease, David Ferguson Sur. ..... Drlg. 500 ft.
Cranfill & Reynolds' No. 1 H. M. and B. B. Berry, 935 ft. from N line and 2,000 ft. from W line of survey, J. P. Hutchinson Sur. ..... T.D. 3,767 ft.; sandy ash.
Creighton Drilling Co.'s No. 2 Hargraves, 330 ft. from S line of lease and 660 ft. W of No. 1, M. Mann Sur. ..... Top Pecan Gap; T.D. 2,785 ft.
Everetts Oil Co.'s No. 4 A. J. Sanders, 330 ft. from S and W lines of lease, T. Allen Sur. ..... Waiting on cmt. to set; T.D. 3,658 ft.
Pat Hudson et al's No. 1 D. F. Smith, 330 ft. out of SE cor. of W 100 acres of the N 200 acres of the 272-ac. lease, 3 miles E and 1¼ miles N of Cranfill & Reynolds' No. 1 Rash, John Denson Sur. ..... Waiting orders 3,710 ft.
Lynch and McQuiag's No. 1 L. T. Mackey, 330 ft. from S line of road and 230 ft. from E line of road, Sarah Harrell Sur. ..... Top Pecan Gap 2,510 ft.; T.D. 3,020 ft.
Magnolia Petroleum Co.'s No. 8 O. F. Smith, 330 ft. from N line of lease and 330 ft. NW of No. 5 and 955 ft. from No. 6, H. Edwards Sur. ..... Top Pecan Gap 2,505 ft.; T.D. 2,695 ft.
G. P. Mitcham's No. 2 Jim Bland, 330 ft. from S and W lines of 15-ac. lease, G. W. Hooper Sur. ..... Drlg. 1,700 ft.
B. P. Phillips' No. 3 E. H. Bramley, 330 ft. from S line of lease and 660 ft. W of No. 2, William King Sur. ..... Top Pecan Gap 2,482 ft.; T.D. 2,600 ft.
L. B. Pruitt's No. 1 B. F. Phillips, 160 ft. from S line and 230 ft. from E line of 75-ac. lease, William Goodwin Sur. ..... Derrick.
Shell Petroleum Corp.'s No. 13 C. C. Landers, 555 ft. from N line of lease and 667 ft. from No. 1 and 668 ft. from No. 11, G. W. Hooper Sur. ..... Waiting on cmt. to set; T.D. 3,665 ft.
Tucker and Van Fleet's No. 1 S. J. Mangham, 1,320 ft. E and 640 ft. S of SW cor. of M. Ward survey, 2 miles E of Gilmer, J. J. Hooper Sur. ..... T.D. 3,400 ft.
Twin Oil Co.'s No. 2 C. J. Mackey, 330 ft. from S line of lease and 660 ft. W of No. 1, J. M. Pineda Sur. ..... S.D. 300 ft.
R. H. Vice et al's No. 2 L. Graves, 330 ft. from W line of lease and 660 ft. N of No. 1, M. Irwin Sur. .. Rig up.
Wadley and Evans' No. 1 W. S. Jones, 330 ft. from S and E lines of 100-ac. lease, James M. Dunn Sur. ... Temp. abnd. 2,690 ft.; moving derrick to north.
Waggoner et al's No. 2 Williams, center of 5-ac. lease, McKinley and Williams Sur. ..... Derrick.
Watson's (formerly Kinsey) No. 1 D. F. Smith, 466 ft. from S line and 1,165 ft. from E line of 266-ac. tract, J. R. Davis Sur. ..... S.D. 1,856 ft.
J. C. Werby and Refugio's No. 1 Ben H. Reed, 262 ft. from S line and 845 ft. from E line of 189-ac. tract.. Waiting on cmt. to set; T.D. 3,609 ft.
J. Z. Werby et al's No. 2 Ben H. Reed, 330 ft. from S and E lines of lease, T. Hopkins Sur. ..... Bldg. derrick.
Williams and McConnell's No. 1 Williams, center of 6⅝-ac. lease, McKinley & Williams Sur. ..... T.D. 2,700 ft.

VAN ZANDT COUNTY

Barton et al's No. 1 C. L. Hubbard, 600 ft. out of NE cor. of Hubbard 225-ac. tract, 3½ miles S of Canton, M. J. De Cadena Sur. ..... S.D. 3,300 ft.
Kelly O. & G. Co.'s No. 1 Lemsford, center of Lemsford tract, John Conner Sur. ..... S.D. 2,300 ft.
Killum & Chisum's No. 1 N. E. Clark, 165 ft. out of most westerly NW cor. of tract, 2 miles S of Van, Jackson Thomas Sur. ..... S.D. 3,036 ft.
Lyman et al's No. 1 J. C. Stewart, 150 ft. from N line and 650 ft. from W line of 90-ac. tract, A. McPhail Sur. ..... T.D. 2,731 ft.
Pure Oil Co.'s No. 15 R. L. Wells, 80 ft. E and 550 ft. N of NE cor. James Rose Sur., Munn Gross Sur. ..... Location.
Pure Oil Co.'s No. 3 M. Elliott, 200 ft. E of W line and 225 ft. S of N line of lease, A. H. Wiley Sur. .... Derrick.
Pure Oil Co.'s No. 2 R. A. Enas, 150 ft. S of N line and 225 ft. E of W line of lease, Jackson Thomas Sur. .... Testing 2,953 ft.
Pure Oil Co.'s No. 2 Mrs. J. E. Cumbie, 250 ft. N of S line and 328 ft. W of E line, John Walling Sur. ... Cmt. setting 2,609 ft.
A. C. Rowan's No. 1 W. E. Price, 150 ft. from N line and 150 ft. from W line of 28-ac. tract, John Walling Sur. ..... S.D. 2,942 ft.
Roy Stumpff's No. 1 M. I. Riggs, 169 ft. from E line and 250 ft. from S line of tract No. 2 and 330 ft. from E line of lease, 4 miles NE of Van, William Daniel Sur. ..... Rig up and S.D.
The Texas Company's No. 5 R. V. White, 250 ft. S of N line and 200 ft. E of W line of 15.5-ac. tract in Nacogdoches County School Land Sur. ..... Rigged up.
Van Oil Association's No. 1 Tankersley, 200 ft. from E and 1,000 ft. from S of farm, L. Landers Sur. ..... T.D. 2,860 ft.
C. O. Weir's No. 1 W. B. Tunnell, 150 ft. from N and W lines of lease, A. H. Wiley Sur. ..... Cored 3,000-03 ft.

WOOD COUNTY

De Canther's No. 1 N. L. McLain, 330 ft. from N line and 643 ft. from E line of tract, Sam Brooks Sur.....S.D. 3,846 ft.
F. B. Parriott's No. 1 John G. Harvey, 200 ft. from N line and 3,501 ft. from W line of survey, 6 miles E of Quitman, Meredith H. Ussery Sur. .....Coring 3,850 ft.
Sinclair Prairie Oil Co.'s No. 1 M. R. Sayner, 330 ft. from N and W lines of Blk. No. 19, one-half mile N of Elberta, J. M. Chandler Sur. .....Set surface csg. 30 ft.
W. B. Saulsbury's No. 1 T. H. Peters, 600 ft. from S line and 300 ft. from E line of 320-ac. tract and survey, 4 miles E of Mineola, W. B. McNutt Sur. .....Drlg. 2,100 ft.
Talko Oil Co.'s No. 1 G. T. Ross, B. L. Smith Sur. .....Fishing 3,840 ft.
Wood County Dev. Co.'s No. 1 Davis, approximately 180 ft. from S line of 160-ac. tract and 2½ miles S of Kantes in Sarah McDonald Sur. .....S.D. 4,110 ft.

Wildcat Operations in West Texas

(Continued from Page 41)

CROCKETT COUNTY

Chambers et al's No. 1 Hoover, 1,650 ft. N and 330 ft. from E, Sec. 1, Blk. FF, B.&B. Sur. .....S.D. 1,059 ft.
Doleman & Moore's No. 1 Ferner, 2,135 ft. from N and 1,485 ft. from E of Sec. 36, Blk. 2, I.&G.N. Sur. ....Spudded and S.D.
Stanolind Oil & Gas Co. et al's No. 1 Todd, 1,370 ft. from N and 1,320 ft. from E, Sec. 67, Blk. UV, G.C.&S.F. Sur. .....Drlg. 7,055 ft.
The Texas Company's No. 1 H. B. Ingham, 330 ft. from S and 2,330 ft. from E line, Sec. 36½, I.&G.N. Sur....T.D. 2,071 ft.; underreaming 8¼-in. csg.
J. D. Young Co.'s No. 1 Shannon, 330 ft. from N and W, Sec. 35, Blk. 1, G.C.&S.F. Sur. .....Drlg. 1,350 ft.

CULBERSON COUNTY

Harris & Haun's No. 1 fee .....S.D. 2,512 ft.
Milton-Dorsey's No. 1 Biggs, 4,181 ft. from N and 150 ft. from E, Sec. 2, Blk. 112, P.S.L. Sur. .....Location.

DAWSON COUNTY

Albaugh et al's No. 1 Robinson, C NW Sec. 46, Blk. M, E.L.&R.R. Sur. .....Shut down.

ECTOR COUNTY

Duffey et al's No. 1 Rutledge, 990 ft. from S, 330 ft. from E, Sec. 7, Blk. B-15 .....Drlg. 2,525 ft.
L. C. Harrison et al's No. 1 Addis, 330 ft. from N and 1,320 ft. from W, Sec. 35, Blk. 43, Twp. 2s, T.&P. Sur..Drlg. 3,880 ft.
Landreth Prod. Co.'s Holt, C SW of SE Sec. 15, Blk. 43, Twp. 1s, T.&P. Sur. .....Drlg. 850 ft.
Phillips Pet. Co.'s No. 1 Scharbauer, 990 ft. from S and 330 ft. from W, Sec. 43, Blk. 44, Twp. 2s, T.&P. Sur...S.D. 3,757 ft.
Thomas et al's No. 1 Edwards, 330 ft. from S, 2,310 ft. from E, Sec. 38, Blk. 43, Twp. 3s, T.&P. Sur. .....S.D. 1,950 ft.; underreaming 8¼-in. csg. at 3,200 ft.
H. F. Wurtz' No. 1 E. A. Ibbetson et al, 330 ft. from N and E lines of NW Sec. 16, Blk. 46, Twp. 3s, G. M. M.Dr.&A. Sur. .....S.D. 3,605 ft.

EL PASO COUNTY

Tri-State Oil Co.'s No. 1 Bobadelia, 1,325 ft. from S and E lines Sur. 254, S.F. No. 7,247 .....Fishing 3,190 ft.

FISHER COUNTY

Cranfill & Reynolds' No. 1 George, 400 ft. from N and 330 ft. from E, Sec. 200, Blk. 1, B.B.B.&C. Sur. ....Drlg. 6,387 ft.
Southern Oil Co.'s No. 1 Purdue, 990 ft. from S and E Sec. 302, Blk. B, B.B.&C. Sur. .....T.D. 3,105 ft.; T.P. 3,105 ft.; storage full.

GARZA COUNTY

Southern Oil Corp.'s No. 1 Boren, 990 ft. N, 660 ft. E, Sec. 36, Blk. 5, H.&G.N. Sur. .....Moving in machine.

GLASSCOCK COUNTY

Empire G. & F. Co.'s No. 1 Hall, 330 ft. from N and 2,290 ft. from W. Sec. 21, Blk. 33, Twp. 2s .....S.D. 625 ft.
Llano Oil & Dev. Co.'s No. 1 Edwards, 330 ft. S and E, Sec. 17, Blk. 33, Twp. 2s, T.&P. Sur. .....Spudding.
B. C. Mann's No. 1 Moore, C NE, Sec. 11, Blk. 35, Twp. 3s, T.&P. Sur. .....Drlg. 3,410 ft.
Noble Drlg. Co.'s No. 1 Baker, 160 ft. from N and 1,116 ft. from E, Sec. 21, Blk. 33, Twp. 2s, T.&P. Sur. .....Drlg. 1,990 ft.
Phillips Pet. Co.'s No. 1 Baker, 150 ft. from N and 1,520 ft. from E, Sec. 21, Blk. 33, Twp. 2s, T.&P. Sur. .....T.D. 2,120 ft.; swabbed 71 bbls. per hour; T.D. 2,122 ft.
Phillips Pet. Co.'s No. 2 Baker, 338 ft. from N and 2,305 ft. from E, Sec. 21, Blk. 33 .....Spudded; S.D. 510 ft.
Shell Pet. Corp.'s No. 2 Phillips, 2,310 ft. from N and 1,650 ft. from E. Sec. 23, Blk. 33, Twp. 2s .....Drlg. 1,620 ft.
Tribal Oil Co.'s No. 3 Edwards, 348 ft. from S and 2,385 ft. from E, Sec. 16, Blk. 33, Twp. 2s, T.&P. Sur. .....Drlg. 500 ft.

HOWARD COUNTY

Harrison et al's No. 3 Denman, 2,310 ft. from N and 330 ft. from E, Sec. 10, Blk. 30 .....Rigging up machine.
Myers et al's No. 1 Denman, 2,305 ft. from S and 2,320 ft. from E, Sec. 14, Blk. 30, Twp. 1s, T.&P. Sur. .....Fishing 1,503 ft.; T.D. 1,560 ft.
Mid-Continent Oil & Gas Co.'s No. 1 Denman, 990 ft. from S and 330 ft. from E. Sec. 10, Blk. 30, Twp. 1s, T.&P. Sur. .....Drlg. 2,740 ft; 500 ft. oil in hole; T.P. 2,618 ft.
Sinclair Prairie Oil Co.'s No. 3 Dodge, 1,650 ft. from S and 429 ft. from W, Sec. 11, Blk. 30, Twp. 1s, T.&P...T.D. 2,800 ft.; cleaning out and swabbing.

HUDSPETH COUNTY

Patillo-Welsh's No. 1 Briggs .....S.D. 1,135 ft.

IRION COUNTY

Bristow et al's No. 3 Nutt, 2,550 ft. N, 1,000 ft. W, Sec. 6, Gonzales County School Lands Sur. .....Location.
Straughn et al's No. 1 Kaiser, 1,930 ft. from N and 1,390 ft. from W, Sec. 69, H. Cooper Sur. .....S.D. 561 ft.

JONES COUNTY

Abers et al's No. 1 Burton, 150 ft. from S and 175 ft. from E of 43.4-ac. tract in G. Martinez Sur. .....S.D. 1,005 ft.; temp abnd.
Condor Pet. Co.'s No. 1 Sayles, 650 ft. from N and 300 ft. from W, Sec. 3, Blk. 30, T.&P. Sur. .....Drlg. 1,370 ft.
Croft et al's No. 2 Swann, 4,350 ft. from S and 1,700 ft. from E. J. Miley Sur. No. 250 .....Drlg. 900 ft.
Dyer's No. 1 Odom, 200 ft. from S and 170 ft. from W of N 320 acres, G. Zumwalt Sur. .....Rig on ground.
Johnson's No. 1 Huddleston, 165 ft. from S and W of N half of N half of Sec. 39, Blk. 18, T.&P. Sur. .....Drlg. 2,070 ft.
Pope & Anderson's No. 2 Swann, 3,050 ft. from S and 1,130 ft. from E of I. Miley Sur. .....T.D. 2,300 ft.; underreaming 8-in. csg.
Smart & Reynold's No. 1 Reynolds, 2,500 ft. from N and 150 ft. from W, Sec. 2, W. T. Scott Sur. No. 3...S.D. 1,143 ft.
C. B. Spelling et al's No. 1 Lillie, 200 ft. from N and W Sec. 4, E. Miller Sur. No. 2 .....S.D. 2,030 ft.
Southern Oil Co.'s No. 1 Swann, 1,000 ft. from E and 900 ft. from S. of I. Miley Sur. .....Rigging up.
Young et al's No. 1 Harrell, 150 ft. from S and E of N half of Sec. 3, O.A.L. Sur. .....Location.

LOVING COUNTY

Adams et al's No. 1 Reagan-McElvain, 2,310 ft. from NW and 1,650 ft. from NE Sec. 84, Blk. 1, W.&N.W. Sur. .....Drlg. 3,545 ft.
Columbia Oil & Gas Co.'s No. 2 Wheat, 2,310 ft. from NW and 330 ft. from SW Sec. 85, Blk. 1, W.&N.W. Sur. .....S.D. 4,107 ft.
Eppenauer Drlg. Co.'s No. 1 Victor, 2,310 ft. from NE and 330 ft. from SE Sec. 4, Blk. 2, W.&N.W. Sur.....Drlg. 4,150 ft.
Goldman et al's No. 1 Allen, 330 ft. from NE and NW of Sec. 90, Blk. 1, W.&N.W. Sur. .....S.D. 3,630 ft.
Goldman et al's No. 2 Allen, 330 ft. from NW, 2,310 ft. from SW, Sec. 90, Blk. 1, W.&N.W. Sur. .....Shut down.
Goldman et al's No. 1 Reagan-McElvain, 330 ft. from NE, 2,310 ft. from NW, Sec. 84, Blk. 1, W.&N.W. Sur..Shut down.
Lewis & Siegel's No. 1 Johnson, 330 ft. from N and 1,650 ft. from W, Sec. 6, Blk. 56, Twp. 1, T.&P. Sur...S.D. 2,280 ft.
Martin et al's No. 1 Wheat, 990 ft. from SW and SE, Sec. 33, Blk. 1, W.&N.W. Sur. .....Drlg. 3,565 ft.
Martin's No. 2 Freels, 4,175 ft. from NE and 412 ft. from NW, Sec. 92, Blk. 1, W.&N.W. Sur. .....Drlg. 1,825 ft.
Miller et al's No. 1 Ferguson, 990 ft. from NE of Sec. 44, Blk. 29 .....Spudded and S.D.
Thomas' No. 1 Wheat, 2,310 ft. from NW, 990 ft. from NE. Sec. 53, Blk. 1, W.&N.W. Sur. .....T.D. 4,010 ft.; running 6⅝-in. csg.
Trinity Drlg. Co.'s No. 1 Wheat, 2,310 ft. from SW, 330 ft. from SE, Sec. 3, Blk. 2, W.&N.W. Sur. .....S.D. 1,300 ft.

PECOS COUNTY

Cardinal Oil Co.'s No. 3-G Tippett, 660 ft. from S and 330 ft. from E of No. 2 Tippett, Sec. 61, Blk. 194, G.C.&S.F. Sur. .....T.D. 302 ft.
Cardinal Oil Co.'s No. 14-E Tippett, 200 ft. from N and 2,460 ft. from E, Sec. 40, Blk. 194, G.C.&S.F. Sur. ....T.P. 353 ft.; T.D. 400 ft.; bailing.
Cardinal Oil Co.'s No. 15-E Tippett, 330 ft. N and W of center of Sec. 40, Blk. 194, G.C.&S.F. Sur. .....Location.
Corvette Oil Corp.'s No. 8 H. Monroe, 1,040 ft. from E line and 150 ft. from N line of Sec. 39, G.C.&S.F. Sur., Blk. 194 .....Location.
Kane Prod. Co.'s No. 1 Pecos Valley, 330 ft. from NW and 1,650 ft. from SW, Sec. 34, Blk. 3, H.&T.C. Sur...S.D. 1,504 ft.
Massey's No. 1 Iowa Realty Trust, 150 ft. from NE and 1,483 ft. from NW, Sec. 21, Blk. 10, H.&G.N. Sur. ....Spudded.
Messinger et al's No. 1 Jones, 1,200 ft. from NW, 1,290 ft. from SW, Sec. 5, Blk. 9, H.&G.N. Sur. .....S.D. 390 ft.
Winfield et al's No. 1 Eaton, 1,170 ft. from NE and 2,490 ft. from SE, Sec. 35, Blk. 3, H.&T.C. Sur. .....Rigging up.

PRESIDIO COUNTY

Sadler et al's No. 1 Bledsoe, 2,640 ft. from N and W Sec. 15, Blk. 354, G.C.&S.F. Sur. .....S.D. 328 ft.

REAGAN COUNTY

Big Lake Oil Co.'s No. 7-C University, 1,570 ft. from W and 725 ft. from S, Sec. 25, Blk. 9 .....T.D. 8,825 ft.; producing.
Big Lake Oil Co.'s No. 8-C University, 710 ft. from S and 2,410 ft. from E, Sec. 12, Blk. 2 .....Drlg. 4,310 ft.
Big Lake Oil Co.'s No. 9-C University, 2,410 ft. from N and 765 ft. from E, Sec. 12, Blk. 2 .....Drlg. 2,845 ft.
Big Lake Oil Co.'s No. 151 University, 1,700 ft. from S and 2,000 ft. from W, Sec. 10, Blk. 2 .....Drlg. 2,635 ft.
Continental Oil Co.'s No. 6-B University, 765 ft. from N and 1,980 ft. from W, Sec. 36, Blk. 9 .....Drlg. 3,725 ft.
Group Oil Corp.'s No. 5-B University, 2,700 ft. from S and 1,775 ft. from W, Sec. 36, Blk. 9 .....T.D. 8,485 ft.; flowing 320 bbls daily.
J. P. Williams No. 1 Scott .....Material.

REEVES COUNTY

Cordova Union Oil Co. et al's No. 1 Wright, 1,330 ft. from S and W, Sec. 53, Cassell's Sur. .....Drlg. 875 ft.
McDorman et al's No. 1 Ray Roberts et al, 2,310 ft. from S and E lines of Sec. 22, Blk. 59, P.S.L. Sur....S.D. 2,025 ft.

RUNNELS COUNTY

Dutton et al's No. 1 Dean, 5,475 ft. from NE and 1,048 ft. from NW in J. Heil Sur. No. 519 .....S.O. 3,417-20 ft.; S.D. 3,600 ft.

SCHLEICHER COUNTY

Eastland Oil Co.'s No. 1 Joe Tisdale, C Sec. 29, Blk. M, G.H.&S.A. Sur. .....T.D. 5,410 ft.
Wesner et al's No. 1 Nicks, 2,310 ft. from N and 2,302 ft. from E of Sec. 77, Blk. LL, T.C. Sur. .....Fish 5,530 ft.
George Wilson's No. 1 Page, Sec. 40, Blk. L, 1,290 ft. from N, 1,570 ft. from W, G.H.&S.A. Sur. .....S.D. 5,053 ft.

SCURRY COUNTY

G. E. Dickman et al's No. 1 F. C. Davis, 1,000 ft. N and 1,770 ft. W of SE cor. of Sec. 275, Blk. 2, H.&T.C. Sur. .....S.D. 5,100 ft.
W. S. Guthrie's No. 1 Clarkson, 1,320 ft. from S and W, Sec. 243, Blk. 97, H.&T.C. Sur. .....Rigging up machine.
Heinzleman et al's No. 1 Hood, 436 ft. from N and 489 ft. from E, Sec. 87, Blk. 3, H.&T.C. Sur. .....Underreaming at 643 ft.
Scurry County Oil Exchange's No. 1 Earnest, 2,310 ft. from N and W, Sec. 65, Blk. 3, H.&G.N. Sur. .....Spudded and S.D.
Seifert & Dibble's No. 1 T. M. Blackburn, 2,310 ft. from N and 2,310 ft. from W line of Sec. 153, Blk. 97, H.&T.C. Sur. .....S.D. 4,992 ft.

TAYLOR COUNTY

Urban's No. 1 Blair, 1,500 ft. from S and 150 ft. from W of NE 198 varas Guadalupe County School Lands, Lot 21 .....Fishing 965 ft.

TERRELL COUNTY

Big Bend Oil Co.'s No. 1 Bassett, C NW Sec. 155, Blk. D, M-K-T Sur. .....S.D. 2,269 ft.
Keck Pecos Trust Co.'s No. 1 Hamilton, C Sec. 6, Georgetown Ry. Sur. .....S.D. 2,150 ft.; moved off tools.
McPhee-Briggs' No. 1 Kern, 330 ft. from S and W, Sec. 15, Blk. D-5, M-K-T Sur. .....S.D. 500 ft.
Miller Bros.' No. 1 Allison & Burke, C NW Sec. 10, Blk. 176, T.&P. Sur. .....S.D. 120 ft.
Mid-Kansas Oil & Gas Co.'s No. 1 Goode, 2,152 ft. from E and 330 ft. from S. Sec. 26, Blk. 161, G.C.&S.F. Sur..S.D. 6,120 ft.
Jones et al's No. 1 Tankenham, C SE NW Sec. 43, Blk. B-2, C.C.S.D.&R.G.N.G. Sur. .....S.D. 2,545 ft.
Sides et al's No. 1 Phelps, 2,157 ft. from N and 2,482 ft. from W, Sec. 5, G. W. Hurley Sur. .....S.D. 3,525 ft.

TOM GREEN COUNTY

Belding & Dutton's No. 1 Norsworthy, 1,640 ft. from S and 587 ft. from E of John McNeese Sur. .....S.D. 760 ft.; S.O. and gas 725 ft.
Mintex Oil Co.'s No. 1 Campbell Est., 446 ft. from S and 630 ft. from W of Sec. 180, Dist. No. 11, S.P. Sur. ....S.D. 1,994 ft.
Pratt & Hancock's No. 2 Lewis, 100 ft. N and 330 ft. E of most northerly SW cor. of Joshua S. Grant Sur. No. 2 .....S.D. 200 ft.

UPTON COUNTY

Clark-Cooper's No. 1 Lane, 2,310 ft. from N and 990 ft. from E, Sec. 36, Blk. 1, M-K-T Sur. .....S.D. 2,270 ft.; 1,800 ft. oil in hole.
White's No. 1 Lane, 2,310 ft. from S and 990 ft. from E Sec. 36, Blk. 1, M-K-T Sur. .....S.D. 2,355 ft.; plugged back to 2,330 ft. and shot; did not flow; swabbing oil and water.

VAL VERDE COUNTY

Couch et al's No. 1 J. P. Yoas, 1,300 ft. from the N line and E line of Sec. 31, Blk. 1, I.&G.N. Sur. .....S.D. 400 ft.
O. O. Owens' No. 1 Mills, Sec. 128, Blk. 1, I.&G.N. Sur., elev. 2,130 ft. .....S.D. 6,780 ft.

WARD COUNTY

Abell Bros.' No. 4 Smith, 990 ft. from SW and 285 ft. from NE of C of Sec. 4, Blk. 24, H.&T.C. Sur. .....Drlg. 2,255 ft.
Abell Bros.' No. 1 Hayslett, 1,650 ft. from NW and 1,320 ft. from SW, Sec. 3, Blk. 5, H.&T.C. Sur. .....S.D. 1,060 ft.
Atlantic Oil Prod. Co.'s No. 1 University, 330 ft. S and E, Sec. 3, Blk. 16 .....Moving in rotary.
Atlantic Oil Prod. Co.'s No. 2 Barrow, 1,650 ft. from NE and 330 ft. from NW, Sec. 23, Blk. 5, H.&T.C. Sur....T.D. 2,566 ft.; swabbed 16 bbls. day.
Atlantic Oil Prod. Co.'s No. 1 Blank-Camp, 1,320 ft. from NW and SW Sec. 14, Blk. 24, H.&T.C. Sur. .....T.D. 2,142 ft.; cmtd. 6⅝-in. csg.
Atlantic Oil Prod. Co.'s No. 1 Jones, 330 ft. from SW and 1,650 ft. from SE, Sec. 25, Blk. B-29, P.S.L. Sur...Rigging up.
Barnsdall Oil Co.'s No. 3 Henry, 330 ft. from NE and 1,650 ft. from SE, Sec. 28, Blk. 29 .....Fishing 2,074 ft.
Bentley et al's No. 1 Carson, 1,650 ft. from NE and SE Sec. 24, Blk. 5, H.&T.C. Sur. .....Drlg. 350 ft.
Bradford's No. 1 Carson, 1,650 ft. from SE and 990 ft. from NE Sec. 26 .....S.D. 575 ft.

Bundy et al's No. 1 Bennett, 2,310 ft. from NW and SW Sec. 16, Blk. 34, H.&T.C. Sur. ..... Cmtd. 8-in. 2,350 ft.
Caprito et al's No. 1 Beatty, 330 ft. from SW and 990 ft. from SE, Sec. 3, Blk. 34, H.&T.C. Sur. ..... S.D. 2,500 ft.; tools moved off.
Eastland Oil Co. et al's No. 1 Grimes, 445 ft. from NE and 1,328 ft. from SE Sec. 14, Blk. 34, H.&T.C. Sur. ... Drlg. 1,525 ft.
Eastland Oil Co.'s No. 3 Grimes, 495 ft. from NE and 440 ft. from SE, Sec. 14, Blk. 34, H.&T.C. Sur. ..... Location.
Eastland Oil Co.'s No. 3 Weiss, 554 ft. from NW and 284 ft. from NE of Sec. 4, Blk. 34 ..... Fishing 1,735 ft.
Eppenauer's No. 1 Purcell, 365 ft. from SW and 1,650 ft. from SE of Sec. 17, Blk. 14, H.&T.C. Sur. ..... T.D. 2,740 ft.
Gerber O. & G. Co.'s No. 1 Stubbs, 330 ft. from S, 990 ft. from W, Sec. 9, Blk. 3, B.&B. Sur. ..... Cellar.
H. V. Greer's No. 1 Carr, 150 ft. from NW and 510 ft. from SW, Sec. 12, Blk. 5, H.&T.C. Sur. ..... S.D. 2,223 ft.
Gulf Prod. Co.'s No. 13 Hutchings, 3,347 ft. from N and 330 ft. from E, Sec. 5, Blk. F ..... Drlg. 2,690 ft.
Gulf Prod. Co.'s No. 14 Hutchings, 330 ft. from N and W of Sec. 9, Blk. O ..... Cmtd. 6⅝-in. 2,400 ft.
Gulf Prod. Co.'s No. 23 O'Brien, 330 ft. from N and 990 ft. from E Sec. 18, Blk. F ..... Drlg. 2,225 ft.
Gulf Prod. Co.'s No. 24 O'Brien, 330 ft. from N and 990 ft. from W, Sec. 19, Blk. F ..... Drlg. 1,975 ft.
Gulf Prod. Co.'s No. 25 O'Brien, 330 ft. from N and W Sec. 20, Blk. F ..... Drlg. 1,310 ft.
Kregle et al's No. 1 Kessler, 3,962 ft. from SE, 330 ft. from NE, Sec. 46, Blk. 34, H.&T.C. Sur. ..... S.D. 2,060 ft.
Leidecker et al's No. 2 Bennett, 2,310 ft. from NW and 1,650 ft. from NE Sec. 16, Blk. 34 ..... Drlg. 2,450 ft.; flows 50 bbls. day.
Maxwell's No. 1 Smith, 330 ft. from NW and SW, Sec. 26, Blk. 34, H.&T.C. Sur. ..... Location.
R. F. Owen's No. 1 Lee, 1,344 ft. from NW and 4,532 ft. from SW Sec. 1, J. Howe Sur. ..... S.D. 2,720 ft.
O'Quinn et al's No. 1 Reynolds, 2,970 ft. from NW and 990 ft. from SW, Sec. 12, Blk. 5, H.&T.C. Sur. ..... Drlg. 2,125 ft.
Penn Oil Co.'s No. 1 Hardage-Wilson, 330 ft. from NE and SE Sec. 11, Blk. 34, H.&T.C. Sur. ..... Drlg. 900 ft.
Rector Oil Co.'s No. 1 Monroe, 660 ft. from NE and SE, Sec. 62, Blk. 33, H.&T.C. Sur. ..... Fishing 3,550 ft.
Rixford-Fuglarr's No. 1 London, 660 ft. NW, 330 ft. NE E cor. Sec. 10, Blk. 32, H.&T.C. Sur., but in Sec. 3 ..... S.D. 2,291 ft.
Stanolind Oil & Gas Co.'s No. 1 Whitlock, 495 ft. NE, 2,200 ft. SE, Sec. 14, Blk. 34, H.&T.C. Sur. ..... Location.
Sturm et al's No. 4 Jones, 2,310 ft. from SW and 990 ft. from SE Sec. 25, Blk. B-29, P.S.L. Sur. ..... Cmtd. 6⅝-in. 2,390 ft.
T. P. Coal & Oil Co.'s No. 5 James, 330 ft. from NE and 1,310 ft. from SE Sec. 5, Blk. 34, H.&T.C. Sur. ..... Swabbing 70 bbls. day; T.D. 2,400 ft.
Thompson's No. 1 Johnson, 2,310 ft. from SW and 330 ft. from NW, Sec. 9, Blk. 34, H.&T.C. Sur. ..... Fishing 2,290 ft.; spraying oil.
Weekly Oil Corp. and L. E. Hults' No. 1 Burks, 330 ft. from SE and 1,320 ft. from SW, Sec. 26, Blk. B-29, P.S.L. Sur. ..... T.D. 2,618 ft.; plugged back to 2,450 ft.; testing.
Zoch et al's No. 1 Brillhart, 2,310 ft. from SE and SW, Sec. 13, Blk. 34, H.&T.C. Sur. ..... Underreaming csg. 1,120 ft.

WINKLER COUNTY

Richardson et al's Scarborough, 990 ft. from N and W Sec. 1, Blk. 77 ..... Drlg. 1,635 ft.
Richardson et al's No. 1 Scarborough, 990 ft. from N and 1,650 ft. from W, Sec. 1, Blk. 77 ..... Cmtd. 6⅝-in. at 2,306 ft.
Sid Richardson et al's No. 2 Sealy estate, 1,650 ft. from S and 330 ft. from W, Sec. 94, Blk. A, G.M.M.B.&A. Sur. ..... Drlg. 2,890 ft.
Richardson et al's No. 2 Scarborough, 1,980 ft. from N and 660 ft. from E, Sec. 1, Blk. 77, P.S.L. Sur. ..... Drlg. by tools 2,630 ft.

Wildcat Operations in Texas Panhandle

Week Ending November 28

CARSON COUNTY

Company, well, farm name, section and block— Remarks:

Gulf Prod. Co.'s No. 6 Cooper, 330 ft. from N and W SW, Sec. 4, Blk. 9, I.&G.N. Sur. ..... Drlg. 2,955 ft.
H. A. M. Oil Co.'s No. 3 Cooper, 990 ft. from S, 330 ft. from W of E half NE, Sec. 5, Blk. 9, I.&G.N. Sur. ... Drlg. 2,750 ft.
Osborne's No. 1 Byrum, 330 ft. from N and E, N½ NW, Sec. 188, Blk. 3, I.&G.N. Sur. ..... T.P. 3,081 ft.; T.D. 3,362 ft.; plugged back to 3,254 ft.; pumped 18 bbls. oil and 35 bbls. water.
Panhandle Rfg. Co.'s No. 1 Kirby, 1,320 ft. N and W, Sec. 183, Blk. 3, I.&G.N. Sur. ..... Location.
Sinclair Prairie Oil Co.'s No. 1 Cooper, 330 ft. from S and W, Sec. 4, Blk. 9, I.&G.N. Sur. ..... Standardizing 3,008 ft.; show oil 2,989 ft.
Skelly Oil Co.'s No. 20 W. Schaffer, 1,320 ft. from S and E, Sec. 87, Blk. 4, I.&G.N. Sur. ..... T.P. 2,985 ft.; T.D. 3,113 ft.; swabbed 247 bbls. in 6 hrs.
Skelly Oil Co.'s No. 21 West Schaeffer, 1,320 ft. N and E, Sec. 68, Blk. 4, I.&G.N. Sur. ..... Standardizing 3,175 ft.
Skelly Oil Co.'s No. 14 W. Schaffer, 330 ft. S and W, Sec. 191, Blk. 3, I.&G.N. Sur. ..... Drlg. 1,130 ft.
Stubblefield-Sheil's No. 3 Cooper, 330 ft. from N and 330 ft. from E of SE, Sec. 5, Blk. 9, I.&G.N. Sur. .... Cellar.
Texoma Nat. Gas Co.'s No. 1-G Urbanczyk, 1,333 ft. S, 2,653 ft. E S half, Sec. 19, Blk. 4, I.&G.N. Sur. ..... Drlg. 1,935 ft.
The Texas Co.'s No. 1 Byrum, 330 ft. from N and W, S half NW, Sec. 185, Blk. 3, I.&G.N. Sur. ..... T.D. 3,252 ft.; to run 5-in. csg.
Union Pet. Co.'s No. 3 Cooper, 330 ft. N, 310 ft. E SE, Sec. 5, Blk. 9, I.&G.N. Sur. ..... Cellar.

CHILDRESS COUNTY

Robertson's No. 1 Biddy, center S 26½ acres of N, Laughlin Sur. Blk. T ..... Rig.

COLLINGSWORTH COUNTY

Cochran Bros.' No. 1 Atkinson, 660 ft. from N and E, Sec. 26, Blk. 21, H.&G.N. Sur. ..... S.D. 300 ft.
Kates et al's No. 1 Hickman, center NE, Sec. 43, Blk. 10, H.&G.N. Sur. ..... S.D. 1,750 ft.
Kates et al's No. 1 Bell, 200 ft. from N, 2,310 ft. from W, Sec. 21, Blk. 102, H.&G.N. Sur. ..... S.D. 1,340 ft.; elevation 1,910 ft.

COTTLE COUNTY

Darby Pet. Co. et al's No. 1 Puersil, 330 ft. from N, 1,320 ft. from E, Sec. 40, Blk. B, John H. Stevens Sur. ..... Drlg. 4,140 ft.

DEAF SMITH COUNTY

Western Union Oil Co.'s No. 1 Farwell, C NW, Sec. 18-2n-2e ..... S.D. 1,240 ft.

GRAY COUNTY

Back & Barber's No. 1 Back, 660 ft. from S, 330 ft. from W, Sec. 140, Blk. 25, H.&G.N. Sur. ..... S.D. 2,428 ft.
Baldridge et al's No. 1 Melton, 330 ft. from NE E half NE, Sec. 95, Blk. B-2, H.&G.N. Sur. ..... T.D. 3,066 ft.; top pay 3,013 ft.; 40 bbls. daily.
Baldridge et al's No. 1 Catlin, 330 ft. S and E of E 80 of 158-ac. tract, Sec. 57, Blk. 3, I.&G.N. Sur. ..... S.D. 485 ft.
Baldridge O. Co.'s No. 1-B Melton, 330 ft. from N and E of SW, Sec. 95, Blk. B-2, H.&G.N. Sur. ..... Rig on ground.
Bell O. & G. Co.'s No. 2 Tedesco Webb, 330 ft. S and W, Sec. 61, Blk. 25, H.&G.N. Sur. ..... Rigging up standard tools.
Boyes et al's No. 1 Colebank-Morse, 330 ft. NE, Sec. 65, Blk. 25, H.&G.N. Sur. ..... S.D. 2,554 ft.; shot. 50 qts.; no results.
Christy's No. 1 Gethings, 330 ft. from N and E, Sec. 13, Blk. A-9, H.&G.N. Sur. ..... Drlg. 1,280 ft.
Sam Danner's No. 1 Cobb, 330 ft. S and W NE, Sec. 165, Blk. 3, I.&G.N. Sur. ..... Rig.
Dixon Creek Oil Co.'s No. 1 Chapman, 330 ft. from S and W, Sec. 69, Blk. 25, H.&G.N. Sur. ..... T.D. 2,300 ft.; to plug back.
Dolomite Prod. Co.'s No. 1 Sailor, 330 ft. N and E, Sec. 111, Blk. 3, I.&G.N. Sur. ..... Rig.
Gerber O. & G. Co.'s No. 1 Stubbs, 330 ft. from S, 990 ft. from W, Sec. 9, Blk. 3, B.&B. Sur. ..... Rig.
Graham-Crue Hoover's No. 1 Barrett, 250 ft. S, 300 ft. W N½ NE, Sec. 136, Blk. 3, I.&G.N. Sur. ..... T.D. 3,205 ft.; T.P. 3,142 ft.; flowed 130 bbls. daily.
Gray County Prod. Co.'s No. 1 Hussiby, 330 ft. from S and W, E½ NW, Sec. 55, Blk. 25, H.&G.N. Sur. ..... Rigging up standard tools.
Gulf Oil Corp.'s No. 2 Catlin, 330 ft. S and W NW cor. SW, Sec. 40, but in Sec. 57, Blk. 3, I.&G.N. Sur. ..... Drlg. 475 ft.
Kewanee O. & G. Co.'s No. 1-F Morse, 330 ft. from S and W, Sec. 3, Blk. 26 ..... S.D. 2,660 ft.
R. H. Locke's No. 1 McKnight, 1,320 ft. N and W, Sec. 173, Blk. B-2, H.&G.N. Sur. ..... Rig on ground.
Magnolia Pet. Co.'s No. 7 fee, 660 ft. N and W SW, Sec. 14, Blk. 3, I.&G.N. Sur. ..... Standardizing 2,722 ft.
Mazda-Shell Pet. Corp.'s No. 3 Combs-Worley, 330 ft. from N and W NE, Sec. 35, Blk. 3, I.&G.N. Sur. ..... Drlg. 2,480 ft.; show gas 2,450 ft.
Mid-Kansas O. & G. Co.'s No. 2 We b, 990 ft. from N, 330 ft. from W NE, Sec. 61, Blk. 25, H.&G.N. Sur. ... Drlg. 2,605 ft.; show oil 2,552 ft.
Mid-Kansas O. & G. Co.'s No. 1 Gethings, 330 ft. S, 1,650 ft. W S½ S½, Sec. 13, Blk. A-19, H.&G.N. Sur. .. Building derrick.
Ochiltree et al's No. 1 Hughey, 360 ft. S, 330 ft. E E half SE, Sec. 129, Blk. 3, I.&G.N. Sur. ..... Drlg. 100 ft.
Parton & Holt's No. 2 Morse, 340 ft. from W, 250 ft. from N, W½ SW, Sec. 5, Blk. 26, H.&G.N. Sur. ..... S.D. 2,635 ft.
Parton Holt's No. 3 Morse, 660 ft. from N and E of E half SW, Sec. 5, Blk. 26, H.&G.N. Sur. ..... Drlg. 2,582 ft.; 500 ft. oil in hole.
Pulse-Shell's No. 1 Brown, 290 ft. from N, 250 ft. from E of NW, Sec. 128, Blk. 3, I.&G.N. Sur. ..... Drlg. 3,195 ft.; oil and gas 3,115 ft.
Quicksand Oil Co.'s No. 2 Chapman, 165 ft. N, 775 ft. from E of W 60 ac. of N½ NW, Sec. 69, Blk. 25, H.&G.N. Sur. ..... Drlg. 388 ft.
Saunders et al's No. 2 Sullivan, 522 ft. from W, 231 ft. from NE, 160 ft. S, 264 ac. of N½, Sec. 136, Blk. 3, I.&G.N. Sur. ..... Will plug back to 3,275 ft. and shoot.
Skelly Oil Co.'s No. 3 South Jackson, 330 ft. from N, 990 ft. from E, Sec. 38, Blk. B-2 ..... T.D. 2,970 ft.; cementing back to 1,970 ft.
Skelly Oil Co.'s No. 3 Saunders, 990 ft. S, 1,200 ft. from W, Sec. 4, Blk. 1, A.C.H.&B. Sur. ..... Standardizing 2,520 ft.
Tedesco-Bell O. & G. Co.'s No. 3 Morse, 330 ft. from N and W N half SE, Sec. 1, Blk. 26, H.&G.N. Sur. ..... T.D. 2,590 ft.; T.P. 2,495 ft.; shot 300 qts.; flowed 6 hrs. then quit.
Texoma Nat. Gas Co.'s No. 1-E Yowell, 1,321 ft. N, 1,317 ft. E, Sec. B-2, Blk. 213, H.&G.N. Sur. ..... Drlg. 630 ft.
The Texas Co.'s No. 6 Davis, 1,610 ft. from 1,320 ft. from E. Sec. 3, Blk. 1, A.C.H.&B. Sur. ..... Drlg. 2,462 ft.
The Texas Co.'s No. 2 Barrett, 1,022 ft. N, 300 ft. E NW, Sec. 130, Blk. 3, I.&G.N. Sur. ..... S.D.
The Texas Co.'s No. 2 Frashier, 997 ft. N, 1,323 ft. from E. Sec. 162, Blk. 3, I.&G.N. Sur. ..... Standardizing 3,107 ft.
The Texas Co.'s No. 1 Pope, 330 ft. from N and E of W half SE, Sec. 173, Blk. 3, I.&G.N. Sur. ..... Drlg. 3,078 ft.
The Texas Co.'s No. 22 Saunders, 300 ft. S, 330 ft. from W SE, Sec. 4, Blk. 1, A.C.H.&B. Sur. ..... Drlg. 2,578 ft.
The Texas Co.'s No. 14 Williams, 330 ft. N, 370 ft. W, Sec. 7, Blk. 1, A.C.H.&B. Sur. ..... Drlg. 2,451 ft.
The Texas Co.'s No. 15 Williams, 330 ft. N and E, Sec. 6, Blk. 1, A.C.H.&B. Sur. ..... S.D. 248 ft.
Sam Travis' No. 1 Back, 330 ft. S and E E half NE, Sec. 44, Blk. 25, H.&G.N. Sur. ..... Moving in material.
Trippiehorn Bros.' No. 1 Lovett, 330 ft. from N and W, Sec. 57, Blk. B-2, H.&G.N. Sur. ..... T.D. 3,157 ft.; swabbed 75 bbls. in 12 hrs.
Weltzel Oil Co.'s No. 2 Morse, 330 ft. from S and E of N half NW, Sec. 67, Blk. 25, A.&G.N. Sur. ..... T.D. 2,675 ft.; plugged back for gas.

HEMPHILL COUNTY

Hoover's No. 1 Hoover, 350 ft. from N, 1,200 ft. from E, G. S. Hood Sur. ..... Fishing 5,202 ft.

HUTCHINSON COUNTY

Alexander's No. 1 Cockrell, 330 ft. N and E of E 80 of S 160, Sec. 3, Blk. M-2, T.C. Sur. ..... Rigging up standard tools.
Baso's No. 1 Moore, 330 ft. from S, 330 ft. from E, in 80 ac. in NW, Sec. 21, Blk. M-21, T.C.R.R. Sur. ..... T.D. 3,080 ft.; est. 5 or 10 bbls. may plug.
Danciger O. & R. Co.'s No. 1 Johnson, 330 ft. N and W, SE, Sec. 34, Blk. Y, A.&B. Sur. ..... Spudded and S.D.
Deal O. & G. Co.'s No. 2 Sanford, 330 ft. N and E of N 80 ac., S 160 ac., Sec. 81, Blk. 46, H.&T.C. Sur. ..... S.D. 450 ft.
Huber Pet. Co.'s No. 1 Moyer-Johnson, 990 ft. from N, 330 ft. from E half SW, Sec. 34, Blk. Y, A.&B. Sur. ..... S.D. 2,918 ft.
Huber Pet. Co.'s No. 1 Works, 1,342 ft. from S and 1,813 ft. from E, Sec. 7, Blk. Y-2, T.T. Sur. ..... Rigging up standard tools.
Liner Drig. Co.'s No. 1-D Johnson, 330 ft. from N and E, Sec. 6, Blk. 1, B.&B. Sur. ..... Plugged back to 3,146 ft.; S.D.
Joe Murphy's No. 1 Watkins, 440 ft. from N and W of N half, Sec. 13, Blk. M-21 ..... T.D. 2,300 ft.; pulled in rig.
Pharis Oil Co.'s No. 5 Smith, 660 ft. from N and W, SW, Sec. 14, Blk. Y, M.&C. Sur. ..... Shut down.
Stanolind O. & G. Co.'s No. 4-A Ware, 330 ft. S and W NE, Sec. 124, Blk. 4, I.&G.N. Sur. ..... Location.
Stansylvania Oil Co.'s No. 3 Stansbury, 336 ft. from S, 1,264 ft. from W, Sec. 129, Blk. Z, E.L.&R.R. Sur. ..... T.D. 3,035 ft.; T.P. 2,975 ft.; 600 ft. oil in hole.
Steckel Prod. Co.'s No. 2-D Whittenburg, 1,065 ft. from S and W, Sec. 38, Blk. M-23, T.C. Sur. ..... Drlg. 1,465 ft.
Texilvania Oil Co.'s No. 1 Hails, 330 ft. S, 280 ft. W, Sec. 16, Blk. 1, E.L.R.R. Sur. ..... Drlg. 170 ft.

LIPSCOMB COUNTY

Okla. Public Service Co.'s No. 1 C. W. Jones, NE SW, Sec. 100, H.&T.C. Sur. ..... T.D. 5,003 ft.

MOORE COUNTY

Canadian River Gas Co.'s No. 2-A Perkins, 3,250 ft. S of most northerly NE cor, 200 ft. W of E line, Sec. 54, Blk. 47, H.&T.C. Sur. ..... Moving in tools.
Dogie Oil Co.'s No. 1 Greenwald, 330 ft. from N and W, Sec. 277, Blk. 44, H.&T.C. Sur. ..... S.D. 1,475 ft.
Shamrock Oil & Gas Co.'s No. 2 Brumley, 330 ft. from N and W, Sec. 360, Blk. 44, H.&T.C. Sur. ..... Fishing 3,035 ft.
Shamrock Oil & Gas Co.'s No. 1 Burnett, 660 ft. from S, 330 ft. from W, Sec. 359, Blk. 44, H.&T.C. Sur. .... Drlg. 2,900 ft.; show gas 2,865 ft.

MOTLEY COUNTY

Matador Oil Corp.'s No. 1 Owens, C NE, Sec. 10, Blk. G, B.&B. Sur. ..... S.D. 530 ft.

OLDHAM COUNTY

Amalgamated German-American Oil Corp.'s No. 1 Norton, 330 ft. S and E, Sec. 12, T.&N.O. Sur. ..... S.D. 400 ft.
Chambers et al's No. 1 Herring, CNL, Sec. 20, Blk. 8, G.C.&S.F. Sur. ..... T.D. 4,000 ft.; fishing.

ROBERTS COUNTY

Chicken Creek Oil Co.'s No. 1 Ledrick, 330 ft. N and W, Sec. 55, Blk. C, G.&M. Sur. ..... S.D. 4,800 ft.

WHEELER COUNTY

Delaney et al's No. 1 Sitter, 330 ft. from S and W of E half NE, Sec. 33, Blk. 24 ..... 40,000,000 ft. gas at 2,025 ft.; trying to kill gas.
Devore & Robinson's No. 1 Sitter, 2,310 ft. from S and E, E½, Sec. 33, Blk. 24, H.&G.N. Sur. ..... T.D. 2,760 ft.; S.D. for pipe line connection.
B. M. Rhodes' No. 1 Noel, 330 ft. S and E NE, Sec. 54, Blk. 24, H.&G.N. Sur. ..... Moving in material.

It's not too late to INCREASE *the* COMPRESSION *ratio of your* 1933 *models*

Valuable improvements in performance characteristics that will give your car competitive excellence are ready at hand. They involve no expensive last-minute retooling or redesigning.

THE permissible limits of compression ratio are now approached by at least one manufacturer in *every* price class—yielding a reward in performance gains that can be had in no other way. Factors which have worked to raise these permissible limits leave a wide margin for improvement open to most 1932 engines.

Higher compression will make your 1933 car better on each of these counts:

(1) **More power and speed.** Higher peak power engine speed resulting from increased fuel efficiency.

(2) **Faster acceleration.**

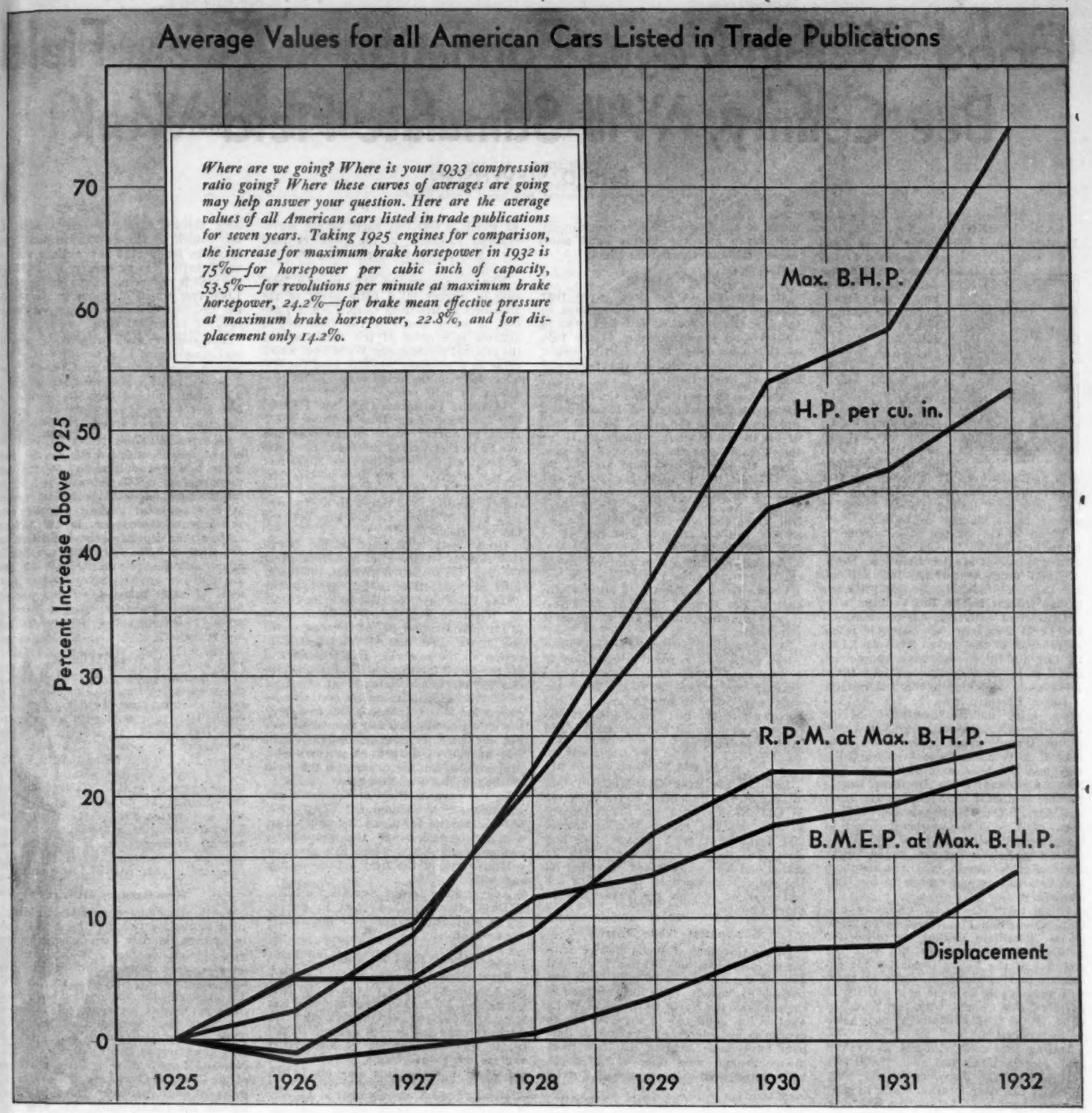
(3) **Better hill climbing ability.**

(4) **Less heat to cooling water.** The increased efficiency of higher compression offers relief to cooling systems instead of overloading them.

(5) **Lower exhaust gas temperatures.**

(6) **Lower extreme bearing loads.** At higher speed, where bearing failures occur, the forces of inertia are greater than, and opposed to, the forces of gas pressure in the combustion chamber. By increasing the gas pressure, higher compression decreases the mean load on bearings.

Curves showing the percentage increases in the yearly average since 1925 for all American passenger cars for engine sizes, horsepower, brake mean effective pressure, revolutions per minute at maximum horsepower, and horsepower per cubic inch of displacement, are presented on the opposite page.


Average Values for all American Cars Listed in Trade Publications
Where are we going? Where is your 1933 compression ratio going? Where these curves of averages are going may help answer your question. Here are the average values of all American cars listed in trade publications for seven years. Taking 1925 engines for comparison, the increase for maximum brake horsepower in 1932 is 75%—for horsepower per cubic inch of capacity, 53.5%—for revolutions per minute at maximum brake horsepower, 24.2%—for brake mean effective pressure at maximum brake horsepower, 22.8%, and for displacement only 14.2%.
Percent Increase above 1925
0
10
20
30
40
50
60
70
Max. B.H.P.
H.P. per cu. in.
R.P.M. at Max. B.H.P.
B.M.E.P. at Max. B.H.P.
Displacement
1925
1926
1927
1928
1929
1930
1931
1932

The steady increase in specific power output and brake mean effective pressure indicates the important rôle that compression increases have played in this development of performance gains.

Notice that the curves of engine power and specific power have increased steadily during the last seven years and show no indication of flattening off. Then make your own estimate of how much improvement you need to reach competitive superiority in 1933 for your price class.

1933 cars which are designed to take full advantage of Ethyl Gasoline will offer new-car purchasers the greatest car value. Engineers in the Detroit laboratory of the Ethyl Gasoline Corporation will be glad to cooperate with you in getting maximum benefit from compression increases. Ethyl Gasoline Corporation, Chrysler Building, New York City.

Ethyl fluid contains lead ©E. G. C. 1932

Good Well in Yegua Formation in Tuleta Field, Bee County, Will Stimulate Field Work

By B. D. STEVENSON
Staff Correspondent, Southwest Texas Fields

SAN ANTONIO, Tex., Nov. 28.—Dirks Brothers' No. 1 fee, in the Tuleta Field in Bee County, came in Wednesday flowing from the Yegua formation at 4,279-98 feet at the rate of 400 bbls. daily through five-sixteenths-inch choke with 430 pounds tubing pressure, and it will start some interesting activity in northern Bee County, both in the immediate pool and elsewhere. It is about 200 feet deeper than the wells producing in the Cockfield sand in the Tuleta Field. It seemed to be making no water.

Yegua is one of the main producing formations in the Laredo district and is also producing in the Calliham Field, about 35 miles west of the Tuleta Field, but has not produced except a little gas in one wildcat test in Bee County.

Drill stem had been broken down on the Dirks Brothers' test when it failed to produce in the Tuleta sand at 4,103-29 feet and it was to have been abandoned when other operators joined Dirks Brothers in deepening to the next sand.

Dirks Brothers own in fee the 160 acres, being the SE Section 3, of the Ragsley subdivision of the Chittim ranch in the Uranga grant, and the 80 acres east of it is under lease to Earl Calloway and the lease east of that to The Texas Company. Dirks Brothers' test is in the southeast corner of their tract and The Texas Company's No. 1 Cox, a gas well, is in the southeast corner of The Texas Company's lease and is an offset to the discovery well of the Tuleta Field. Acreage south of Dirks Brothers and Calloway is under lease to the Gulf Production Co.

Other than offsets by Calloway and Gulf Production Co., therefore no additional immediate drilling is called for joining the new producer, but with the addition of the Yegua formation for geologists and operators to shoot at there will undoubtedly be some new activity in northern Bee County with the Yegua in mind if the Dirks Brothers' test holds up in production.

During the week, C.R.&M. & O'Neill made location for a test about 1,000 feet northeast of the discovery Tuleta well, which is the first location made in that direction, and some believe the best production lays in that direction. All the tests thus far have been west and south. Two tests are in process of being completed. Taber & O'Neill's No. 1 Harris at 4,119 feet, and in the sand, was last reported running a drill stem test, and Wallace & Bowles, at 4,071 feet, were coring for the sand. They are offsets and are about a half mile south and west of the discovery well.

Grisham and others have spudded in their No. 1 Hill about 1½ miles southwest of the Tuleta discovery well which is another important test.

Wildcat Has Showing

H. J. Porter's No. 1 Ingram, in Karnes County, late in the week, is reported with a showing of oil in the Pettus sand at around 3,057 feet and a drill stem test was due to be made. When last heard from it had just topped the sand, with the showing of oil and gas. This wildcat is about 2 miles southeast of the town of Green and is about 9 miles nearly due north of the Pettus Pool in Bee County and hence gets the Pettus sand much higher than in the Pettus Field.

Starr County

Reports late in the week were that Thomas & Nance's No. 7 Kelsey-Bass, in the Los Olmos Pool at 564 feet, was in and flowing through casing at the rate of 190 bbls. daily. It is a little deeper than the other wells in the field and bigger in production.

The Los Olmos Oil & Gas Co. has completed its first schedule of 15 additional producers due to the sale of 500,000 bbls. of oil to the Sinclair refinery at Houston. Completions the last week or two, all on the Kelsey-Bass land are No. 35 at 475 feet for 35 bbls., No. 36 at 490 feet for 30 bbls., No. 37 at 504 feet for 35 bbls., No. 38 at 466 feet for 30 bbls., No. 39 at 480 feet for 30 bbls., No. 40 at 494 feet for 35 bbls. and No. 41 at 508 feet for 35 bbls.

Among the wildcats in that county to excite interest is the B.&B. Oil Co.'s No. 1 Crown Brick & Tile Co., 6 miles southeast of Rio Grande City. At 2,999 feet it was showing enough gas to make it interesting.

A semiwildcat north of the Los Olmos Field looks like a possible extension in a new sand. Goodwin & Yantis' No. 1 Seabury and others in Share 5 of the west part of Porcion 75 and a little northwest of the Los Olmos Pool at 685 feet was showing oil and gas and seemed to have possibilities.

In Old Mexico

Late in the week Ohio-Mex Oil Co., drilling on the Rancheria across the river in Old Mexico from the Starr County activity, hit gas, reports say, at around 200 feet, went wild, caught fire and swallowed the derrick and rig. The location had been made based somewhat on the geology disclosed by the drilling the last year or two on the Texas side in Starr County.

Government Wells District

In the Government Wells district drilling on inside locations has nearly stopped and all the interest is in edge wells and possible extensions. With the exception of the east side the North Government Wells Pool is all unlimited in area so far as dry holes are concerned. Seacord & Putnam have made location 330 feet from the south and west lines of the north half of the northeast quarter of Survey 42 which is 660 feet north of the northernmost producer in the field, railroad commission rules requiring 660-foot spacing.

The same operators have made a location in Survey 60 a little north of the Bissonett & McGinley Corp.'s No. 1 Lundell, 3 miles south of the field and a quarter mile west of the north end of the original Government Wells Pool which came in a producer recently good for 100 bbls. daily in the same sand and is producing in both pools.

Magnolia Petroleum Co.'s No. 1 Riley, 660 feet west of the Luse & Russ' No. 1 Hahl, in Survey 45, is on the sand and due to further extend the field. The Luse & Russ test extended the field 3,000 feet in the direction of the Bissonett & McGinley No. 1 Lundell and Seacord & Putnam's location if it comes in a producer will help to close up the gap between the two fields.

Other west edge tests in the North Government Wells Pool are Southwest Drilling Co.'s No. 5 Wendt, 660 feet west of production in Survey 43; The Texas Company's location for its No. 1 H. Wendt, a west offset to the Seacord & Putnam location at the extreme north end of the field, and W. T. Daniel's location on the east side at the south end of the field for No. 1 F. J. Smith in Survey 46, which is aimed at the first sand. Also Magnolia has an east side location for No. 4 Johnson, 330 feet from the west line and 420 feet from the south line of the northwest quarter of the southeast quarter of Survey 44, an east edge proposition. On the inside of the field nothing is listed at this time.

In the Sarnosa Field at the south end of the district, Sarnosa Oil Corp.'s No. 3 Weil came in for about 100 bbls. daily, a slight extension and the company is moving to the No. 4 which if a producer will also extend the field a little on the east side.

Among the wildcats, Sun Oil Co.'s No. 1 Duval County Ranch Co., in Survey 78, is still drilling and still not finally disposed of.

Saxet Field in Nueces

Saxet Field in Nueces stopped activity for a little while due to the O. R. Seagraves' No. 1 Lagasse which ran wild last week at 3,140 feet, caught fire, and cratered, causing the derrick and rig to fall in. It was still burning at last report and the smoke had begun to get blacker, indicating it was making some oil. It had only surface casing set at around 450 feet which is the custom in that field. It seems likely that new rulings may require setting casing deeper. It is thought the well is producing from sand at around 1,600 feet which blew out in a Houston Oil Co. test and also in one other test, each of them cratering.

The coming week will likely see several completions. Last week the only completion was the Gulf Coast Oil Co.'s No. 2 Bessie Elder which was a producer at 2,740 feet and has been deepened to 4,564 feet where it came in with an initial production of around 100 bbls. daily.

Houston Oil Co.'s No. 1 Walton, one of the most watched wells in the field, made a little additional hole the past week and at 4,873 feet was still coring for the sand but without a final verdict. It is of especial interest because there are only two producers in the field at around that depth, one at 4,886 feet and the other at 4,868 feet. They are 3 miles apart and the possibilities of the sand are not yet proven. Several other tests, most of them below 4,000 feet are due for early completion in the sand at around 4,500 feet that is producing in a few wells.

Jim Wells Wildcat

F. A. Lain's No. 1 Vernon Porter, in the northeast corner of Jim Wells County, is marking time. At 3,302 feet, total depth, it is in a sand with an estimated 2,000,000 feet of gas showing. It topped the marine Oligocene at 2,759 feet and it was in the 600 feet below that depth that it had hoped to find several sands. It found one sand at 3,102-57 feet that was dry, another at 3,166-90 feet that carried salt water and the third at 3,290-3,302 feet showing gas. While not a commercial producer yet, it has disclosed much of interest and seems to prove a structure in that part of the country.

Kerr-Bandera District

E. A. Parkford completed building a road to the location for the No. 1 Duke in western Bandera County near Vanderpool but has obtained a 90-day extension on the lease requirements which gives him till February 18 to start his well. This test and the test on the Love ranch in Kerr County have attracted interest but each has been delayed somewhat. That on the Love ranch is to be carried hereafter as the Eastland Oil Co.'s No. 1-C Love and is a little northwest of the Evans & Gant's No. 1 Love, which made a small producer from two horizons in the Pennsylvania. The new Love ranch test was last reported drilling at 1,150 feet.

Each of these tests is north of the Balcones fault. Kentucky interests are understood to be arranging to drill in northern Uvalde County due north of the town of Uvalde, which will be down closer to the main Balcones fault. Exact location is not announced.

Balcones Fault Zone

Properties Trading Co.'s No. 1 Henry Fritag, in southern Bastrop County, south of Smithville, stood for a time at 2,118 feet. It resumed drilling, and at 2,188 feet has a showing of oil and gas, and early this week is expected to make a drill stem test. Marts and Beavens, in the north part of the county, in their third attempt at opening a Serpentine plug field, went into chalk in No. 1 Smith without finding Serpentine. Chalk was topped at 1,800 feet and it was still in chalk at 1,975 feet.

Wildcat Operations in Southwest Texas

Week Ending November 26

Company, farm and location—	Remarks:
ARANSAS COUNTY	
Grayburg Oil Co.'s No. 1 McCampbell, 150 ft. from N and E lines of Lot 1, Blk. 58, McCampbell ranch	Ready to spud.
ATASCOSA COUNTY	
American Central Oil Co.'s No. 2 Mary McConnell, 150 ft. W of E line, 200 ft. S of No. 1 Blk. 138, W. C. M. Baker Sur., 3 miles W and 6 miles S from Somerset	T.D. 1,660 ft.; rig moved off.
BANDERA COUNTY	
F. A. Brown's No. 1 R. B. Watson, 660 ft. N of cen. of S line of Sec. 71	T.D. 350 ft.; fishing.
E. A. Parkford's No. 1 Duke, 200 ft. from S line, 150 ft. from W line of Sec. 7, G.C.&S.F. Sur.	Moving in rig.
BASTROP COUNTY	
J. E. Emanuel's No. 1 H. Klemm, 317 ft. from W line, 300 ft. from S line of tract in R. S. Teal Sur.	Rigged up and standing.
Liberty Oil Co.'s No. 1 Lizzie Davis, 1,300 ft. to NW lines, 450 ft. to SW lines of 50-ac. tract in Geo. A. Stovall Sur.	Location.
Marts & Beavens' No. 1 Smith, 7,450 ft. to NW lines, 1,350 ft. to SW lines of J. Burleson Sur.	T.D. 1,975 ft.; drlg.
Ogden & Reed's No. 1 Miers, beginning at the intersection of the C. L. Riddle and W. M. and Viola Riddle tracts, thence W 300 ft., thence S at right angles 150 ft. in W. H. Leech Sur.	Location.
Properties Trading Co.'s No. 1 Henry Freitag, 400 ft. from SE line, 1,800 ft. from NE line of P. Conley Sur.	T.D. 2,188 ft.; showing oil, testing.

(Continued on Page 65)

Corporation Commission Begins Hearings on Two Proposed Plans for Proration in Oklahoma

By W. A. SPINNEY
Staff Correspondent, Oklahoma Fields

Oil production in Oklahoma for the week ending November 26 declined below the State's allowable, which is 380,000 bbls., to an estimated daily average of 366,850 bbls., a drop of approximately 20,000 bbls. daily from the previous week. Most of the decline was in the Oklahoma City Field, due to the holiday.

The Oklahoma Corporation Commission was to decide on the December allowables after hearing the nominations by the different companies at the November 28 meeting. It is thought that little change will be made by the purchasing companies from the November nominations, as there is no increase in the demand for crude oil from the flush areas in the State.

The wildcat test of Carter Oil Co. and others' No. 1 Shawbell, C SW NE, Section 1-12-4w, on the northwest edge of Oklahoma City, in Oklahoma County, was drilling deeper at 6,175 feet after landing casing at 5,927 feet. The test is located about 7 miles northwest of production in the field. Many believe it is logging lower than the producing wells in the main part of the pool.

Another wildcat test nearing a pay horizon is the Eason Oil Co.'s No. 1 Duck Club, NW cor. NE, Section 10-16-4w, Logan County, which was drilling at 5,985 feet in shale. This test missed the shallow pay which was found in a well to the northwest.

Amerada Petroleum Corp. and others' No. 1 Laffoon, NE cor. SE NE, Section 9-13-6, a wildcat in Lincoln County, has landed and cemented casing at 4,107 feet, in the Viola lime; the top was found at 4,096 feet.

An Important Hearing

The Oklahoma Corporation Commission began a series of hearings on Monday, November 28, which may continue for some time. The commission is called upon to listen to testimony and arguments on two petitions, one submitted by the Anderson-Prichard Oil Corp. and the other by the Champlin Refining Co., both petitions asking for a revision in the proration rules in the State. The petitioners differ on methods of prorating and differ on the machinery of proration. They agree on the point that the present methods of handling oil production in the State are unsatisfactory to them and that changes should be made. It is quite likely there will be much argument pro and con presented by operators and by crude oil purchasing companies that would be affected by changes suggested by either of the petitioners.

The Champlin Refining Co.'s petition asks that the enforcement of ratable taking be applied to all flush and semiflush fields. It also provides for the taking of new potentials in all prorated fields in the State with the establishment of curtailment in all fields on a ratable basis, the percentage to be fixed on the field potentials and the market demand in the State as a whole.

The Champlin Refining Co.'s petition applies for the adoption and enforcement of orders, rules and regulations by the Oklahoma Corporation Commission to prevent waste; to prevent discrimination in favor of one common source of supply as against another; to establish ratable taking from each common source of supply among the individual producers, and to prevent inequitable or unfair taking of crude oil from such common source; to establish new potentials; to determine the market demand in all flush areas, and to increase the allowables in the prorated areas.

The petition states that the pipe line companies can control the market output from any field to their own advantage and that the companies with production in the Greater Seminole Field have taken more than their ratable and equitable share of the oil from the state supply, thereby depriving the Oklahoma City producer of his just proportion and encouraging the violation of orders of the commission in the Oklahoma City Field who believe themselves victims of unfair treatment. To eliminate the discrimination the allowable production in all fields in the State should not be less than 15 per cent of the potential, the petition says.

The Anderson-Prichard Oil Corp.'s petition to the Oklahoma Corporation Commission was prepared by attorneys handling proration matters, and offers a complete new order covering proration in Oklahoma, but which does not materially change the present proration regulations for the State.

The petition states that the reason for proration in Oklahoma is that there is waste of natural gas and of gas pressures in the operation of oil wells, and that producers are threatening to and will permit physical waste of crude oil, economic waste, underground waste, surface or waste incident to the production of oil in excess of transportation or marketing facilities.

Both petitions point out the necessity of revising the proration system so that military control of the Oklahoma City Field may be relinquished as soon as possible.

Most of the oil purchasers own production in the Greater Seminole area and are meeting their demands as far as possible from this source of supply. The market demand has been steadily declining from the Oklahoma City Field since July, 1931, when the field reached its peak allowable of 203,170 bbls. a day.

It is expected an audit of the books of the umpire's department also will be introduced as a basis for a check between the reports made to the commission each month and those sent in by the companies.

Another important matter to be considered is the evidence taken at previous meetings on the 25-bbl. flat allowable to all wells in the field even with proration (not over or underproduced) and the allowable of 100 bbls. a day to wells making 3 per cent or more water in the Oklahoma City Field. The extra allowables to these wells is attacked in the Champlin Refining Co.'s petition. Other companies objecting to these extra allowables include the Phillips Petroleum Co., Wilcox Oil & Gas Co. and a group of individual producers.

The Anderson-Prichard Oil Corp.'s petition provides for classification of pools into five groups to be known as Classes A, B, C, D and wildcats. It would fix allowables and proration rules for each classification.

The Sovereign Oil Co. and others' No. 1 Flowers, SW cor. SE SE, Section 14-12-3, a wildcat in southern Lincoln County, found the Wilcox sand dry and was coring deeper. The Wilcox sand was found at 5,565 feet and it was being cored at 5,583 feet. The operators may drill the test to 6,000 feet. The test is located on a block of 649 acres.

Holdenville Developments

Activity continues in the Holdenville area of Hughes County, and new attempts are being made to extend the production in the field. G. M. Buchner and others' No. 1 Scott, SW cor. NE NE, Section 4-7-8, is a new location and if it makes a producer it will extend production in that area about a mile to the northwest.

Mid-Continent Petroleum Corp.'s No. 2 Harjo, SE cor. NE SE, Section 9-7-8, which cored the Booch sand at 2,886 feet after finding a showing of oil, was shut down to land casing.

Sinclair Prairie Oil Co. and others' No. 1 Narcomie, NW cor. SE SW, Section 14-7-8, is an old well cleaned out to be drilled deeper. The crew recovered lost tools and was preparing to drill deeper at 2,982 feet.

In the shallow sand area the Galbreath and others' No. 2 Narcomie, NW cor. SW NW, Section 14-7-8, found the Calvin sand at 1,207-23 feet where oil rose 1,000 feet in the hole.

Keyokla Oil Co.'s No. 1 Davis, SE cor. NE NW, Section 14-7-8, found the Calvin sand at 1,203-39 feet where oil rose 500 feet in the hole and about 10 bbls. of oil was swabbed out.

Limestone Oil & Gas Co.'s No. 4 Walker, SE cor. NE NE, Section 15-7-8, pumped 64 bbls. of oil from the Calvin sand at 1,212-43 feet.

In an attempt to extend the Fish Pool in Seminole County, the Winona Oil Co. and others in No. 1 Harjo, SE cor. NW NW, Section 29-7-8, found a showing of oil in the Wapanucka at 3,073-77 feet and are preparing to land casing at 3,011 feet to test the oil showing.

The English Drilling Co.'s No. 1 Heenan-Coe, NE cor. SE NE, Section 32-3-7w, Grady County wildcat, was reported drilling deeper at 3,410 feet. It found a showing of oil at 3,255-84 feet, and after making a production test the owners decided to drill deeper. The hole is caving, delaying drilling operations.

It is expected that oil leaders will make a conscientious effort to clear the oil situation before the next session of the Oklahoma legislature in January, because there may be a number of demands for an investigation of various kinds and especially into the enforcement of proration in the Oklahoma City Field and in the Greater Seminole area.

Holiday Affects Production

Due to a holiday during the past week the daily average production of the Oklahoma City Field showed a drop, compared to the previous week. The production averaged approximately 58,691 bbls. a day in the week ending November 26, compared to 72,755 bbls. the previous week. Pipe line shipments for the first 21 days of November averaged 72,851 bbls. which is less than the allowable production of the field.

Some express the opinion that the present proration order will be extended through the month of December.

Only one location was announced during the week in the Oklahoma City Field. W. H. Clement and others' No. 2 Little, NW cor. NE NW NE, Section 27-11-3w, on Block 8 of Beverly Hills addition, and west of the same operators' No. 1 Little, which was drilling at 6,180 feet.

Oklahoma City Developments

The Oklahoma Corporation Commission ordered two Morgan Oil Co.'s wells shut in for alleged overproduction of nearly 200,000 bbls. in the Oklahoma City Field. The wells are No. 1 Gibbons, in the Meads second addition, which is alleged to have overproduced 115,954 bbls. and No. 1 Bisbee, McCormack factory addition, which is alleged to have overproduced 83,755 bbls.

The Corporation Commission acted on the complaint of Col. Cicero I. Murray, in charge of proration enforcement in the Oklahoma City Field. It is expected the wells will be shut in until they are even with their allowable production. The commission has asked the company to file complete production records of the two wells from November 1, 1931, to August 31, 1932.

Oklahoma City's problem of curtailing drilling activities inside the congested area of the city has become a serious one, because of the fact that many geologists are of the opinion that the prolific Wilcox sand extends under a large part of the business district of the city.

The city has the legal right to curtail and halt oil development inside its corporate limits. It has developed into a matter of what is best for the common good. There is a surplus of oil in the country today, but what the conditions will be a few years from now is anybody's guess. Some express the opinion that in the future the value of the oil may offset property values inside the city.

Tatums a Busy Field

The development of the Tatums Pool, in Carter County, has been steady and continues to keep that area the busiest in southern Oklahoma. The field is being drilled by both major companies and independent operators.

The Noble Drilling Co.'s No. 3 Trahern, SE cor. NE NW, Section 31-1s-2w, was the first gas well completed in the Tatums Field. It is estimated at 20,000,000 feet per day, and was spraying some oil. The gas and oil were found in a series of sands at 2,165-2,220 feet. The total depth of the well is 2,468 feet. The gas will probably be used for fuel in the field.

The Carter Oil Co.'s No. 2 L. Lynn, SW cor. NW NE, Section 31-1s-2w, is estimated at 50 bbls. a day pumping from sands at 2,085-2,383 feet.

Frank Lundy and others' No. 1 Majors, NE cor. SE SE, Section 25-1s-3w, located between the old production and the extension in the Tatums Field, was preparing to test a showing of oil after cementing casing at 2,419-84 feet. The K. D. Oil Co. and others' No. 2 Burton, NW cor. SW SW, Section 30-1s-2w, is a rig, recently built, it being the east offset to the No. 1 Majors.

Revival in Grady County

The development in Grady County has been resumed after a period of inactivity, new operations starting and wells that have been shut down being drilled deeper.

The English Drilling Co.'s No. 1 Heenan-Coe, NE cor. SE NE, Section 32-3-7w, southern Grady County wildcat, was being drilled deeper from its present depth of 3,284 feet, where a showing of 10 bbls. of oil and 100 bbls. of water per day was found.

J. B. Nichols and others' No. 1 Rigney, SE cor. NW, Section 12-5-9w, Caddo County, in the Cement Field, was cleaning out at a total depth of 3,284 feet. It has been shut down for about two years.

The Bridwell Oil Co.'s No. 1 Barnett, NW cor. SW NE, Section 30-6s-5w, a wildcat in Jefferson County, was com-

pleted for 45 bbls. of oil a day from sand at 1,523-26 feet.

McNeil and Newsome have made location for No. 1 Newsome, SE cor. NE, Section 14-2-5w, a wildcat a half mile south of production in the Carter-Knox Field, Grady County.

Lone Star Gas Co.'s No. 1 Mayo, NW cor. SE, Section 36-4-8w, Grady County, in the Chickasha gas field, was drilling at 1,850 feet. Same company's No. 1 Warren, C SE NW, Section 36-4-8w, Grady County, has cemented surface casing.

Carter County

G. Pace and others' No. 1 Lucas, C NE SE NW, Section 14-1s-3w, is a rig. Gouin and others' No. 2 Burton, NW cor. SW SW, Section 30-1s-2w, is a rig. Carter Oil Co.'s No. 2 Lynn, C SW NW NE, Section 31-1s-2w, made 32 bbls. in 15 hours from 2,185-2,387 feet. Noble Drilling Co.'s No. 3 Trahern, SE cor. NE NW, Section 31-1s-2w, made 25 bbls. of oil and 15,000,000 feet of gas a day from 2,182-2,463 feet.

Creek County

Johnson Oil & Refining Co.'s No. 6 Evans, SE cor. NW, Section 29-19-9, is a machine. Same company's No. 1 Mann, SE cor. NW SE, Section 32-19-9, made 9,000,000 feet of gas a day from 2,337-73 feet. N. D. Christian and others' No. 1 Mack, SE cor. NE, Section 7-18-9, was dry and abandoned at 2,670 feet. Pure Oil Co.'s No. 3 Steele, NW cor. SW, Section 6-15-7, was completed for 600 bbls. a day from Wilcox sand at 3,662-3,725 feet.

Hughes County

Manahan and others' No. 1 Chapman, NW cor. SE SW, Section 10-7-8, is a location. Same operators' No. 2 Chapman, SW cor. NE SW, Section 10-7-8, is a location. Same operators' No. 1 Long, NW cor. SE SW SW, Section 10-7-8, was completed for 437 bbls. of oil from 2,879-2,930 feet. Pringle & Marshall's No. 1 Rogers, SE cor. NE SE, Section 8-7-8, was completed for 40 bbls. a day from 2,987-3,013 feet. Woffard Drilling Co.'s No. 1 Scott, NW cor. SW SW, Section 10-7-8, was completed for 840 bbls. a day from 2,902-16 feet. Keyokla Oil Co.'s No. 2 Davis, SE cor. NW, Section 14-7-8 (old well drilling deeper), was dry and abandoned at 1,218 feet.

Jefferson County

Bridwell Oil Co.'s No. 1 Seal, CNL SW NE, Section 30-6-5w, was drilling at 800 feet. O. V. Beck and others' No. 9 Seay, CNL SW SW, Section 34-6-5w, was completed for 75 bbls. a day from 1,476-82 feet.

Kiowa County

McWirter and others' No. 1 Vanderneck, NE cor. NW, Section 3-7-19w, (old well drilling deeper), total depth 1,902 feet.

Marshall County

T. F. Bland and others' No. 1 Godwin, SE cor., Section 10-6-6, was drilling at 300 feet. Peacock & James' No. 2 Flynn, CNL SW SW, Section 3-7-6, was drilling at 500 feet. Weaver & Porter's No. 1 Dobyn, NE cor. SE SE NE, Section 4-7s-6, was dry and abandoned at 855 feet. L. W. Little's No. 1 McDuffee, CWL NE SW, Section 3-7s-6, was dry and abandoned at 821 feet.

Muskogee County

Simpson and others' No. 1 Cobb, CSL SE NE, Section 6-14-17, was dry and abandoned at 1,725 feet. J. V. Dunbar's No. 1 Hawdeshell, NE cor. NW SE NW, Section 19-14-19, was dry and abandoned at 1,181 feet.

Oklahoma County

Phillips Petroleum Co.'s No. 1 Beauchamp, CSL NW SE, Section 22-11-3w, is a location. Same company's No. 1 Holsteen, SE cor. NW SE, Section 22-11-3w, is a location. Same company's No. 1 Dobson, NE cor. NW SE, Section 22-11-3w, was completed for 2,738 bbls. of oil in four hours from 6,449-6,535 feet. Same company's No. 1 Micks, NW cor. NE SW, Section 15-11-3w, made 2,788 bbls. in four hours from 6,282-6,531 feet. Same company's No. 1 Roberts, CNL NE SW, Section 15-11-3w, made 1,150 bbls. in four hours from 6,428-6,565 feet. Anderson & Kerr and others' No. 1 Gallagher, C NW SE, Section 22-11-3w, made 4,997 bbls. in four hours from 6,480-6,580 feet.

Okmulgee County

W. Christian's No. 2 Flynn, NW cor. SE SE, Section 20-14-12, was drilling at 1,000 feet. C. D. Klingsmith's No. 5 Grayson, SW cor. NE NW, Section 35-16-11, was completed for 25 bbls. a day from 1,798-1,830 feet.

Osage County

Appleman and others' No. 21, SE cor. NE SE, Section 16-22-9, was completed for 50 bbls. a day from 2,207-30 feet.

Pawnee County

Shidell & Johnson's No. 1 Van Emerson, CSL SW NE, Section 11-20-8, was drilling at 400 feet.

Pottawatomie County

Payne and others' No. 1 Lovelace, NW cor. SW NW, Section 27-6-4, is a rig. Hilton Phillips and others' No. 2 Brister, SE cor. SW SE, Section 21-7-4, is a location.

Pontotoc County

Brydia and others' No. 2 Layne, SW cor. NW, Section 30-5-5, is a location. Lone Star Gas Co.'s No. 1 Mayo, NW cor. SE, Section 36-4-8, was drilling at 1,490 feet.

Seminole County

Droppleman and others' No. 1 Campbell, SE cor. SW NE, Section 17-9-7, is a rig. Sinclair Prairie Oil Co.'s No. 3 Baker, SE cor. SW NE, Section 24-9-5, was completed for 5 bbls. a day from 4,204-42 feet.

Stephens County

Lesh Brothers' No. 10 Smith, C NE NW, Section 27-1s-5w, was drilling at 500 feet. Gilbert and others' No. 4 Green, CNL SE NE, Section 2-2s-8w, was dry and abandoned at 1,545 feet.

Tulsa County

J. P. Flannigan's No. 1 Lovett, NE cor. SE SE, Section 35-18-15, was drilling at 700 feet. Stanberry and others' No. 1 Drew, CWL SE NE, Section 26-18-15, was drilling at 500 feet. C. W. Mechling's No. 6 Nave (twin), NW cor. NE SE, Section 28-28-14, was completed for 20 bbls. a day from 1,234-90 feet after a 90-quart shot. Green and others' No. 1 Haikey, C SE SE, Section 30-18-14, was dry and abandoned at 1,560 feet. Detrick and others' No. 2 Lincoln, CEL NW SW, Section 18-18-15, was completed for 15 bbls. a day from 1,219-92 feet. Horner and others' No. 2 McIntosh, NE cor. NW, Section 22-18-15, was dry and abandoned at 1,010 feet.

Wildcat Operations in Oklahoma

Northern Oklahoma

ALFALFA COUNTY

Company, farm and location—	Remarks:
Smith Brothers' No. 1 Forbes, SE cor. NW NW Sec. 12-27-11w	S.D. 1,232 ft.

ATOKA COUNTY

Barton's No. 4 Miller, SE NW SE SW Sec. 26-1-14	Drlg. 505 ft.
Hicks' No. 2 Morris, SE NE NW SE Sec. 5-1-15	Drlg. sand 69-155 ft; estimated 2 bbls; S.D. 215 ft.
Hick's No. 2 Morris, SE NE NW SE Sec. 5-1-15	Est. 2 bbls. at 69-155 ft.
George's No. 1 Reddin, SW NE SW Sec. 19-1-15	S.D. 640 ft.

BECKHAM COUNTY

Pattel Royalty's No. 1 Goose Tree, SW SE SW SE Sec. 32-10-23w	Drlg. 1,200 ft.
Mid-Texas Co.'s No. 1 Sidell, NE cor. SW SW Sec. 17-22-22w	S.D. 2,550 ft.
White et al's No. 1 Green, SW cor. Sec. 34-10-24w	S.D. 3,575 ft.

BLAINE COUNTY

Watonga Petroleum Co.'s No. 1 Masters, SW NW NW, Sec. 27-16-11w	S.D. 1,175 ft.

CADDO COUNTY

Abernathy & Brown's No. 2 Houston, Sec. 24-6-12w	S.D. 1,115 ft.

COAL COUNTY

Dodd & Burton's No. 1 Grigsby, NW SE NE Sec. 25-1-8	Drlg. 745 ft.
Funk & Russell's No. 1 Miller, SE NE Sec. 10-2-8	Drlg. 2,750 ft.

COMANCHE COUNTY

G. W. Stogner's No. 1 Doebel, C SW SW Sec. 3-3-9w	S.D. 1,450 ft.

CREEK COUNTY

O. O. Owen's No. 1 fee, NW cor. Sec. 23-15-7	Drlg. 1,305 ft.
E. L. Jillson et al's No. 1 Starr, SE NW Sec. 18-15-8	Drlg. Wilcox 3,852-64 ft; est. 307 bbls.

CUSTER COUNTY

Miley Pet. Co.'s No. 1 Caldwell, NE Sec. 12-14-14w	Location.
Algers Pet. Co.'s No. 1 Roper, C SE NW Sec. 21-20-24w	S.D. 50 ft.

GRADY COUNTY

English Drlg. Co.'s No. 1 Heenan-Coe, NE SE NE Sec. 32-3-7w	Show oil 3,355-87 ft.; to test; drlg. out cmt.; swbd. 3 bbls. per hr., est. at 50 bbls. daily; running tubing to pump 20 bbls. and drlg. deeper.

GARFIELD COUNTY

E. L. Love et al's No. 1 White, SE cor. NW Sec. 9-24-6w	S.D. 5,850 ft.

GREER COUNTY

French's No. 1 Murphy, SW NW Sec. 23-7-21w	S.D. 1,645 ft.

HASKELL COUNTY

Ault et al's No. 1 Hall, NW SW SW Sec. 14-9-19	S.D. 2,000 ft.
Ault et al's No. 1 Hall, SE NW Sec. 26-19-9	S.D. 200 ft.

KAY COUNTY

Crawford & Long's No. 1 Richards, SW NW Sec. 4-26-1w	S.D. 285 ft.
Lewis et al's No. 1 Harris, SE NW Sec. 14-25-1	Location.
Mummert Drlg. Co. et al's No. 1 Cormick, C NW SE Sec. 9-27-2	S.D. 3,693 ft.
Blackwell Oil Co.'s No. 1 Harshman, Sec. 2-26-1w	Rig on ground.

KIOWA COUNTY

McWhirter Bros.' No. 1 Kline, SE NW Sec. 5-6-16w	S.D. 830 ft.
Christian's No. 1 Jones, NE SE Sec. 8-7-18w	S.D. 1,610 ft.

LINCOLN COUNTY

Sovereign Oil Co.'s No. 1 Flowers, SW SE SE Sec. 14-12-3	Drlg. 5,360 ft.

LOGAN COUNTY

Eason Oil et al's No. 1 Gun Club, NW NE Sec. 10-16-4w	S.D. 5,161 ft.

NOBLE COUNTY

Stanolind O. & G. Co. et al's No. 1 Kalb, C NE NW, Sec. 33-20-2w	Drlg. 2,510 ft.
Rollins et al's No. 1 Frank, SE SW Sec. 6-20-2w	Rig.

OKLAHOMA COUNTY

Carter Oil et al's No. 1 Shawbell, C SW NE Sec. 1-12-4w	Drlg. 5,837 ft.
Citizens Oil Co.'s No. 1 Sage Barber, NE cor. Sec. 21-11-3w	S.D. 1,200 ft.
L. C. Hivick's No. 1 Sunset Addition, NW SW NW Sec. 17-11-3w	S.D. 5,515 ft.

PAWNEE COUNTY

G. N. Mainess and Westfield Drlg. Co.'s No. 1 Schildberg, NW SW NW Sec. 27-22-6	Location.
Deep Rock's No. 1 Crow, NE SE Sec. 26-23-5	Rig.
Rookstool's No. 1 Wylie, NW NE SW Sec. 6-20-5	S.D. 1,950 ft.

PITTSBURG COUNTY

Moffett & Hall's No. 1 Jones, NW cor. Sec. 14-8-14	S.D. 1,675 ft.

PONTOTOC COUNTY

Delaney's No. 1 Harden, NE SW Sec. 30-2-7	Drlg. 755 ft.
Blackwell Oil & Gas Co.'s No. 1 Abbott, NW SW NE Sec. 14-4-6	1,030 ft.; 4,000,000 ft. gas, to bradenhead.
Williams' No. 1 Krath, NE SE Sec. 33-3-4	Drlg. 1,545 ft.
Edna Marie's No. 1 McWhirt, NE SE Sec. 11-2-6	S.D. 570 ft.
Sunray Oil's No. 1 Grant, SE NE Sec. 11-4-8	Drlg. 2,802 ft.

POTTAWATOMIE COUNTY

Brown et al's No. 1 Sauter, NW cor. Sec. 25-11-4	Digging cellar.

ROGER MILLS COUNTY

Ute Oil Co.'s No. 1 Williams, C SW Sec. 23-12-24w	S.D. 5,150 ft.
L. C. Hivick's No. 1 Davis, C NW NE Sec. 4-11-26w	S.D. 2,420 ft.

SEMINOLE COUNTY

Donnelly et al's No. 1 Shepard, SE NE Sec. 4-8-8	S.D. 1,270 ft.

WASHITA COUNTY

Miley Pet. Co.'s No. 1 Montgomery, SW NW SE NW Sec. 23-9-17w	S.D. 1,004 ft.
Miley Pet. Co.'s No. 1 Wolfe, NE SW Sec. 23-9-17w	Rig.
Cooper & Terhune's No. 1 Blocker, NW cor. Sec. 29-8-19w	Show oil 2,459-67 ft.; S.D. 2,757 ft.
Burns & Prince's No. 1 Deck, SW cor. Sec. 21-8-18	S.D. 2,160 ft.

Oklahoma Panhandle

TEXAS COUNTY

Three Way Oil Co.'s No. 1 Crane, SW NW Sec. 11-1-1E	T.D. 4,720 ft.; to cement.

Southern Oklahoma

ATOKA COUNTY

L. E. Stewart et al's No. 1 Stewart, SE SE Sec. 2-4s-10	Drlg. 502 ft.
Malarnee et al's No. 1 D.O.K. Land Co., C E half SE Sec. 35-2s-13	S.D. 680-704 ft.; comp. 3 bbls.
Brookshire's No. 1 R. W. Rowland, NW NE SE Sec. 18-3s-10	Drlg. 3,305 ft.

JEFFERSON COUNTY

E. S. Bonner's No. 1 Burgess, NE SE Sec. 12-5s-8w	Abnd. 750 ft.

MARSHALL COUNTY

Lee Cross' No. 1 Hamlin, SE SW SW Sec. 26-6S-5	Drlg. 605 ft.
Thomas' No. 1 Setliff, SW SE SE SW Sec. 36-5s-6	S.D. 330 ft.

McCURTAIN COUNTY

Stampfs' No. 1 Robert Harris, SW NW SW Sec. 14-9s-25	S.D. 2,778 ft.

PUSHMATAHA COUNTY

Whitehead et al's No. 1 Messer, SE SW SW Sec. 35-3s-18	S.D. 1,950 ft.

STEPHENS COUNTY

Geo. Pace et al's No. 1 Peck, NW SW Sec. 32-2s-6w	Drlg. 50 ft.
Calif. Prod. & Oper. Co.'s No. 1 Garnett, SE NE NE Sec. 11-3s-6w	S.D. 335 ft.
Calif. Prod. & Oper. Co.'s No. 1 Suton, NE SE SW Sec. 12-3s-6w	Rig.
Gillette Bros.' No. 1 Cooley, NW SE NW Sec. 17-2s-8w	S.D. 530 ft.
George's No. 1 Ryan, NW SW NE Sec. 31-3s-15	S.D. 510 ft.

JUDGE AMES RESIGNS

NEW YORK, Nov. 28.—Judge C. B. Ames, newly-elected president of the American Petroleum Institute, has announced his resignation as vice president and director of The Texas Company to assume his duties as head of the Institute. The resignation was accepted at the regular meeting of the directors of The Texas Company and Mr. Ames has assumed his new duties with the A.P.I.

WELLINGTON, TEX., RATE

WELLINGTON, Tex., Nov. 28.—Council has passed an ordinance requiring lower gas rates for this city. The new schedule sets a maximum cost of 40 cents per 1,000 feet on the first 25,000 feet and a sliding scale to 400,000 feet which costs the consumer 13 cents per 1,000 feet.

PERMIT FOR LORRAINE, KANS.

TOPEKA, Kans., Nov. 26.—The public service commission announces granting of the application of the Kansas Pipe Line & Gas Co. for a certificate to operate as a gas utility in Lorraine, Kans.

DEATH OF JAMES KERR

P. M. Kerr, Tulsa oil producer, received word in the past week of the death of his brother, James Kerr, veteran oilman of Knapp Creek, N. Y., a village in the north end of the Bradford oil field.

Tests Indicate a Decline in Potential Production of Important West Central Kansas Pools

By W. A. SPINNEY
Staff Correspondent, Kansas Fields

Production from wells in the Ritz-Canton Field in McPherson County, Kansas, show a decline amounting to 70,151 bbls. in their daily potentials. The entire field output is now placed at 85,725 bbls. compared to 155,876 bbls., the previous potential of the field.

The wells producing from chat show the largest decline. There were 68 chat wells on November 15 with a potential of 13,640 bbls. compared to the previous potential of 48,730 bbls. a day. The 104 Viola lime wells in the field now have a potential of 72,085 bbls. compared to 107,876 bbls., the former figure.

The new potentials are based on a 24-hour test, while the potentials of last spring were taken on a 12-hour test. The umpire advises that, based on the pipe line nominations of the purchasing companies the allowable of the Viola lime wells is 15 per cent of the potential production and that the allowable of the chat wells is 20 per cent of the potential production.

The Public Service Commission held a meeting on December 1 to investigate the request of the Dickey Oil Co. that the minimum well allowable of the chat wells in the Ritz-Canton Field be changed. The Dickey Oil Co. claims that the present minimum well allowable of 100 bbls. daily allowed to chat wells is working a hardship on the larger chat wells and is not ratable taking, as it allows smaller wells to produce a much greater percentage of production than the larger chat wells.

The Derby Oil Co.'s request that the Public Service Commission classify as a separate pool the new area about 1½ miles south of the Voshell Pool, in McPherson County, which is producing from the Hunton lime, is also to be considered at the December 1 meeting. The Derby Oil Co. has made nomination for oil from this new producing area in Section 33-21-3w.

Oil production of the State for the week ending November 26, shows an increase of approximately 6,000 bbls. daily, making the total for the State 102,300 bbls. The increase is mostly from the Ritz-Canton Pool, in McPherson County, which has just completed a potential test of all wells.

The Voshell Pool has become active again as the result of new extensions both north and south of the old limits of production. There are now 19 active tests in the south end of the field, including the Nickel Pool, which is adjacent to the south end of the Voshell Pool. It is believed that many more tests are in prospect and additional locations are being made each week.

Locations announced during the week in the area include The Texas Company's No. 2 Nachtigal, NW cor. SE SW, Section 21-21-3w, one location north of the same company's No. 1 Nachtigal, which extended the Simpson sand production, and All States Oil Co.'s No. 4 Wall, NE cor. SE SW, Section 21-21-3w.

In the same area the Rose Spring Oil Co.'s No. 1 Dick, NW cor. NE, Section 21-21-3w, found the Viola lime at 3,383 feet and it was drilled to a total depth of 3,386 feet. The crew is rigging up standard tools.

In the north extension to the Voshell Pool, in McPherson County, Slick, Pryor & Lockhart's No. 3 Gratton, NW cor., Section 24-20-3w, found the top of the Viola lime at 3,400 feet and was drilling at 3,444 feet in the lime. A small showing of oil was reported from the Viola lime.

Derby Oil Co.'s No. 1 Hamm, SE cor. NW, Section 33-21-3w, in the Nickel Pool, McPherson County, produced 1,397 bbls. of oil in 12 hours, and was given a potential rating of 2,794 bbls. a day. The production was found in the Hunton lime at 3,464-72 feet. The same company's No. 2 Hamm, SW cor. NE, Section 33-21-3w, was spudding. It is a diagonal offset to J. E. Mabee, Inc.'s No. 1 Nickel, the discovery Hunton lime well in the area.

The deeper pay horizons in the Nickel Pool will be explored by J. E. Mabee, Inc., and others' No. 1 Koehn, NW cor. SW NE, Section 33-21-3w, which now has a potential of 10 bbls. daily from the Hunton lime. It was being drilled deeper at 3,475 feet. This well was a disappointment as it is a diagonal offset to the Derby Oil Co.'s No. 1 Hamm, which has been given a potential of 2,794 bbls. a day. No. 1 Koehn found the top of the Hunton lime at 3,447 feet and the bottom at 3,455 feet. The well may be near the northern limits of the producing area of the field. It is the general opinion that the Hunton lime extends to the east. That the Hunton lime in the Nickel area may connect with that in the Hollow Pool in Harvey County, 4 miles distant, is considered possible.

Stanolind Oil & Gas Co.'s No. 3 Zerger, SW cor. NE SE, Section 16-21-3w, started flowing when the bit was only 17 feet into the chat formation. It is located in the south extension to the Voshell Pool, and one-hour flow was gauged at 200 bbls. from the chat at 3,036-53 feet. It may be drilled a little deeper before taking a potential gauge.

According to State Umpire L. R. Pickrell, the potential of the Stratman area in Ellsworth County shows a decline of 6,175 bbls. daily over the previous potential. The Stratman area, located in Township 17n-10w, shows a total potential of 10,432 bbls. from 10 wells, compared to 16,607 bbls.

Based on the nominations by the purchasing companies, effective November 15, the operators are allowed to produce their wells at 17 per cent of their potential daily production. The allowables for the month of November were figured at 10 per cent of the old potential for the first 14 days of the month and 17 per cent of the new potential for the last 16 days of the month.

The new potential tests of the Stratman area were determined by taking a 24-hour gauge, by pumping. The previous potential tests were determined by taking a 12-hour pumping test and then multiplying the gauge by two. The following shows the potential gauges by wells:

Company and well—	Barrels— Prev. pot.	New pot.
El Dorado, No. 1 Stratman	974	878
El Dorado, No. 2 Stratman	2,492	668
El Dorado, No. 3 Stratman	1,918	922
El Dorado, No. 4 Stratman	1,082	594
El Dorado, No. 5 Stratman	2,394	1,861
El Dorado, No. 6 Stratman	2,198	1,804
Robertson, No. 1 Stratman	1,717	726
Robertson, No. 2 Stratman	1,970	1,442
Sinclair, No. 1 Stratman	128	40
Smith & Ash, No. 1 Stratman	1,734	1,497
Total	16,607	10,432

Alyward, Madison and Henderson and others' No. 1 Krehbiel, SE cor. NE SE, Section 29-21-3w, was drilled to a total depth of 3,675 feet, where it found a hole full of water and may be abandoned. The test logged lower than wells to the east. It seems to define the west edge of the south extension to the Voshell Pool, and is a mile northwest of the recently completed Hunton lime wells in McPherson County and three-quarters of a mile southwest of The Texas Company's recently completed Simpson sand well.

Another wildcat test in Marion County found water in the Siliceous lime. Darby Petroleum Corp. and others' No. 1 Pankratz, NW cor. SE, Section 5-20-1, was drilled to a total depth of 3,455 feet. The Viola lime was topped at 3,287 feet, the Simpson sand at 3,328 feet and the top of the Siliceous lime at 3,455 feet. The test was drilled on a community block of 3,865 acres, owned by the Magnolia Petroleum Co., Slick, Pryor & Lockhart, Sinclair Prairie Oil Co. and others. The leases were nearing expiration and the owners wanted a test drilled to determine the value of the area.

The wildcat test of Stanolind Oil & Gas Co. and Smith and others, No. 1 Wilson, C NW SW, Section 13-18-14w, Barton County, found the top of the chat at 3,422 feet, where oil rose in the hole immediately. The operators may drill 30 or 40 feet deeper.

Torrey, Feaster and others' No. 1 in the NW cor. SE SE, Section 12-20-11w, Barton County, was drilling at 3,200 feet on the last reports and it found two showings of oil between 3,100 and 3,200 feet. It is expected this well will find the Siliceous lime in a few days.

Sinclair Prairie Oil Co.'s No. 1 Turgeon, C NE NW, Section 3-16-12w, a wildcat in Barton County, was fishing for a bit at 310 feet after the hole started caving.

Greenwood County Completions

In Greenwood County H. Gore and Phillips Petroleum Co.'s No. 3 Brothers, SE cor. NW NW, Section 35-23-11, in the southeast extension area of the Seeley Pool, is estimated to be a 40-bbl. well after a 120-quart shot from the Bartlesville sand at 1,866-89 feet.

Sinclair Prairie Oil Co.'s No. 3 Davis, SE cor., Section 6-24-12, is estimated at 50 bbls. daily from the Bartlesville sand at 1,703-29 feet. It is cleaning out after a 60-quart shot.

Mathews & Rex' No. 3 Wilson, NW cor. NE SW, Section 8-24-12, in the Hamilton district, is estimated at 25 bbls. a day from sand at 1,712-24 feet. It is a diagonal offset to a dry hole. It was also cleaning out after a 50-quart shot.

Theta Oil Co.'s No. 9 Schaffer, NW cor. SW SE, Section 31-23-14, Woodson County, is estimated at 200 bbls. per day from the sand at 1,546-81 feet. It was cleaning out after a 40-quart shot.

Cowley County

Hinkle and others' No. 2 Fuller, SE cor. SW SW SE, Section 22-32-4, was completed for 2,000,000 feet of gas a day from 2,984-3,005 feet. Murphy and others' No. 1 Observatory Hill, NW cor. SW NE, Section 27-32-4, was completed for 80 bbls. from 2,386-2,408 feet.

Edwards County

Mid-Kansas Oil Co. and others' No. 1 Converse, SW cor. NE NE, Section 30-24-18w, was dry and abandoned at 4,970-75 feet.

Ellsworth County

Derby Oil Co. and others' No. 1 Stoltenberg, NE cor. SE SE, Section 21-16-10w, was completed for 30 bbls. a day from 3,325-47 feet.

Ellis County

Phillips Petroleum Co.'s No. 1 Kessler, SE cor., Section 32-11-17w, an old well drilling deeper, was drilling at 3,289 feet.

Ford County

Swain and others' No. 1 Henthorn, C NW, Section 21-25-24w, was dry and abandoned at 5,782 feet.

Greenwood County

Gore and Markus' No. 2 Davis, C NW SE, Section 6-24-12, is a rig. Mathew & Rex' No. 4 Reeser, SE cor. NE NE, Section 7-24-12, is a machine. York State Oil Co.'s No. 1 Joy, SW cor. SE SE, Section 11-23-11, was dry and abandoned at 1,900 feet. Ward McGinnis' No. 1 Thrall, NE cor. SE NE, Section 17-24-12, was completed for 15 bbls. from 1,817-38 feet.

McPherson County

All States Oil Co.'s No. 4 Wall, NE cor. SE SW, Section 21-21-3w, is a rig. Helmerich and Payne and others' No. 1 Russell, C NW NE, Section 23-19-2w, is a rig. Derby Oil Co.'s No. 2 Hamm, SW cor. NE, Section 33-21-3w, is a rig. The Texas Company's No. 2 Nachtigal, NW cor. SE SW, Section 21-21-3w, is a rig; No. 1 Nachtigal, SW cor. SE SW, Section 21-21-3w, was completed for 665 bbls. a day from 3,431-37 feet. Henderson & Holden's No. 1 Krehbiel, SE cor.

(Continued on Page 62)

Wildcat Operations in Kansas

(Descriptions are East unless marked otherwise)

BARTON COUNTY

Company, farm and location—	Remarks:
Sinclair Prairie Oil Co.'s No. 1 Turgeon, C NE NW, Sec. 3-16-12w	Spudding.
Rankin's No. 1 Sooey, C SW NE Sec. 34-18-12w	Rig.
Doherty et al's No. 1 Roesler, SW NE Sec. 11-18-11w	S.D. 1,975 ft.
Smith et al's No. 1 Wilson, C NW SW Sec. 13-18-14w	Drlg. 3,327 ft.
Skelton Oil Co.'s No. 1 Ott, C SE SE Sec. 16-19-14w	Set liner 3,530-46 ft.; show oil; S.D. 3,605 ft.

BUTLER COUNTY

Cameron-Great Basin Oil Co.'s No. 1 Landon, C SE NW Sec. 13-23-2	U.R. 3,269 ft.
Ramsey's No. 1 Michael, SW NW NW Sec. 18-27-3	Drlg. 3,005 ft.

COWLEY COUNTY

Roth & Farout's No. 1 Craig, SE cor., Sec. 2-32-3	Drlg. 1,500 ft.

DICKINSON COUNTY

Severs' No. 1 Livingood (O.W.D.D.), SE NW Sec. 13-13-21.	S.D. 4,900 ft.

EDWARDS COUNTY

Mid-Kansas O. & G. Co.'s No. 1 Converse, SW NE NE Sec. 30-24-18w	Drlg. 5,295 ft.

ELLIS COUNTY

Phillips Pet. Co.'s No. 1 Unknown, C SW Sec. 33-11-17w	Location.

ELLSWORTH COUNTY

Henry et al's No. 1 Arnsman, C SW SW Sec. 10-15-7w	Location.
Sinclair Prairie's No. 1 Unknown, C NE NE Sec. 27-15-3w	Rig.
Buckford's No. 1 Burke, C NE SW Sec. 14-14-9w	S.D. 50 ft.
Gurley Bros. and Barnsdall's No. 1 Union Pacific, NW SW Sec. 7-14-7w	Drlg. 2,670 ft.
R. Gear et al's No. 1 Kroboth, SE NW Sec. 12-15-10w	Skidded rig; drlg. new hole 1,080 ft.

FINNEY COUNTY

L. F. Meyers' No. 1 Brown, S SW Sec. 16-25-34w	Drlg. 2,000 ft.

Converse Area Not Coming Up to Expectations; Conroe Louisiana Trend Is Being Studied

By D. H. BANCROFT
Staff Correspondent, Louisiana-Arkansas

SHREVEPORT, La., Nov. 28.—With the prospective Converse area of Sabine Parish in partial eclipse because of not altogether satisfactory results in the last two tests there, operators, particularly independent lease men and land departments of the larger companies, are keeping at least one eye on the growing leasing activity along the so-called Conroe trend in central Louisiana. The area involved extends across the State from the Texas line to the Mississippi River south of a similar big play two years ago along the Angelina-Caldwell flexure and, like the former play, has its parallel case across the river in Mississippi. Several huge blocks have been assembled by a number of the major companies and smaller organizations and independent individuals are busy assembling smaller blocks. One of the major organizations has completed its blocking and is engaged in filling in while putting a number of instrument crews in the field to check its holdings. Southern Vernon and Rapides Parishes, northern Beauregard and Allen, Evangeline and Avoyelles Parishes all are showing in this leasing activity, most of the blocks being taken on 5 and 10-year commercial leases at small bonus and rentals.

Meanwhile there is the usual amount of leasing on a smaller scale going on in North Louisiana territory. United Gas Public Service Co. is taking a small amount of additional acreage west of the holdings it owns in the Lisbon district of Claiborne Parish on which it is understood to be planning a 4,500-foot test. East of here, in Union Parish, Monroe interests are blocking in Township 19-2e for a well. Paul Trahan of Wichita and Shreveport has a 1,000-acre tract centering on Section 27-22-15, south of the old Hosston Field of Caddo Parish on which he plans a 3,500-foot test to begin by January 1. DeSoto Parish is sharing with Sabine the greater amount of activity going on in Shreveport territory and W. M. Pollock of Mansfield has assembled 2,000 acres centering on Section 1-13-15, 5 miles southeast of Keatchie, and is building derrick for a 3,100-foot test on the T. H. Cook land in Section 1-13-15. A. W. Phillips and others have completed a block of 9,600 acres centering on Section 31-20-7, Claiborne Parish, about 15 miles west of the Sugar Creek deep gas area and 7 miles south of the old Homer Field and have derrick up on the John Knighton land in the NE SE, Section 31-20-7, for a test scheduled to go 5,000 feet if necessary.

Trapp Oil Syndicate of Oklahoma has taken over a block of approximately 200,000 acres, solid, extending approximately 6 miles north and south and 9 miles east and west from a point about 2 miles west of DeRidder, Beauregard Parish. The entire tract has been gone over with torsion balance, a station having been set up on every 40-acre tract in the block, the result of this survey showing a high in the eastern end of the block on which location for the first of a series of 3,500-foot tests has been made in Section 25-2s-9, on the Long-Bell Lumber Co. land.

NORTH LOUISIANA

Gibson-Johnson's No. 2 Frost Johnson in Section 15-9-13, Converse area of Sabine Parish, showed little improvement during several days' swabbing after standing overnight, yielding between 10 and 15 bbls. of oil having the same gravity and characteristics of that produced by the discovery well in Section 19-9-13. Lee & Burnett's No. 1 Burket, NW SW, Section 10-9-13, three-quarters of a mile northwest of this well, cored the marl at around 1,500 feet but found no sand. The casing they had set at 1,472 feet and hole reamed to bottom, total depth 1,600 feet. The two producers in the area are producing from 1,516 feet total depth. Sandfiels Oil & Gas Co.'s, formerly Cloud & Bolin, No. 1 Bowman-Hicks in the NE NE, Section 26-9-13, 2½ miles southeast of Gibson-Johnson's No. 2 Frost Johnson, cored sandy marl at 1,724 feet and had bailed down 1,200 feet without getting any show.

Notwithstanding these disappointing results Converse remains fairly active in trading, and two new locations were announced during the week. Hy Rockmill made location for No. 1 A. M. Cassell in the NE cor., Section 35-9-14, 2 miles southwest of the discovery well in Section 19-9-13, and Evans Brothers have location for No. 1 Crawford in the SE SE, Section 20-9-13. So far, there have been no locations in the territory directly between the two producers, but when they are made the wells will be watched perhaps more closely than any of the others now under way.

Zwolle Quiet

Zwolle was quiet with only two completions, one of them dry and two new locations. Askew & Ellis completed No. 3-E McNeely, NE NE, Section 14-7-11, pumping 25 bbls. from 2,567 feet and P. J. White, trustee's No. 1 Nulton, NE NW, Section 1-7-13, was abandoned at 2,455 feet. R. E. Brooke abandoned location for No. 1 Annie Gray, SW NE, Section 35-8-13. In the Blue Lake (western) end of Zwolle territory, R. L. Gay's No. 12 Bowman-Hicks, SW SW, Section 14-7-14, tested dry and was abandoned at 2,791 feet. His No. 1-A Long-Bell, NW NW, Section 10-8-13, the deepest well, wildcat or otherwise yet drilled in Sabine is shut down in sand and shale at 6,880 feet. At one time it looked good for deeper production than in Zwolle but failed to produce on test and there is some question whether it will go deeper. The new locations were J. E. Bailey's No. 1 Les Lites, SE SW, Section 28-8-11 and E. M. Thomasson's No. 1 W. and H. Andries, SE NW, Section 28-8-11.

Announcement that W. M. Coates will resume operations on two wells he drilled in Sabine-Natchitoches territory near Marthaville some time ago and temporarily abandoned was received with considerable interest due to the showings in Langbridge Oil Co., Frank Foster and Bridges & Clark wildcats in that vicinity. Both were abandoned in the Zwolle marl-chalk horizon and are to be taken to the upper Cretaceous, perhaps beyond that. They are No. 1 Collins, Section 28-9-10, drilled to 4,100 feet with a show of oil in sand from 4,530-60 feet and No. 1 Frost-Johnson, Section 13-9-11, temporarily abandoned at around 2,000 feet in chalk. The two are on a block of 12,000 acres in Sabine and Natchitoches Parishes northeast of Zwolle and Pleasant Hill.

E. F. Neely completed No. 4 Ponder in Section 15-7-11, a mile north of Many, making an estimated 500 bbls. from 2,552 feet.

Plain Dealing District

Belmont Oil Co.'s No. 1 Edwards, a wildcat approximately 12 miles southwest of Bellevue production in Bossier Parish, tested salt water at 1,106 feet and was abandoned but in the Plain Dealing district two wells showed the typical Plain Dealing show. Breazeale and Steckol were swabbing to test No. 1 Nattin, Section 15-22-14, after a show of oil and gas at 3,018 feet and Plain Dealing Oil & Gas Co. was bailing to test No. 1 Nattin, Section 15-22-14, after a show of oil with water at 2,960 feet. It had bailed down 1,500 feet without improving the show. This is an old well completed in 1931 as a 10-bbl. pumper at 2,890 feet. The Breazeale and Steckol well was understood to be making a show for a twin to the Plain Dealing company well as originally completed, and is claimed to be good for a 15 or 20-bbl. pumper.

Daily Runs

Daily average runs from the field showed a net decline of 475 bbls. from the week before, a decrease of 605 bbls. in Louisiana runs being offset by a 130-bbl. increase in Arkansas. Louisiana runs totaled 28,895 bbls. compared to 29,500 bbls. and Arkansas 33,885 bbls. compared to 33,755 bbls. Runs from the district as a whole were 62,780 bbls. compared to 63,255 bbls. last week. Runs from the several pools were:

NORTH LOUISIANA

Caddo, light	4,970
Caddo, heavy	1,815
Cotton Valley	710
DeSoto-Red River	1,865
Elm Grove	375
Haynesville	3,590
Holly	280
Hamer	2,630
Pleasant Hill	260
Sarepta-Carterville	810
Urania	3,410
Zwolle	8,180
Total	28,895
Last week	29,500
Decrease	605

ARKANSAS

Champagnolle	1,650
El Dorado	2,585
Lisbon	470
Nevada	910
Smackover, light	2,860
Smackover, heavy	23,600
Stephens	350
Urbana	1,160
Total	33,885
Last week	33,755
Increase	130
Both states	62,780
Last week	63,255
Decrease	475

Gloster Area

Potter & Tracewell's No. 1 L. Dowling, formerly S. A. Guy's, in Section 31-14-14, in the Gloster area that showed oil at shallow depth several months ago, made a dry test at 3,075 feet and shut down for orders. M. B. Gill made location in the SW NE, Section 4-10-13, for No. 1 W. J. Hill in the vicinity of a series of tests that revealed presence of oil and gas in paying quantities from time to time during the years between 1919 and 1930. Huntley Syndicate was the first to geologize this territory around Benson and drilled two wells that gave unmistakable evidence of commercial production. Fire destroyed one and the other suffered a like fate. Within the last four years Sebastian and others drilled two or three wells in the same territory and got production but on a small scale.

Texana Oil Co. tested salt water at 3,475 feet on No. 1 Clark-Morse Lumber Co. in Section 23-5-6, Natchitoches Parish. It is reported that new capital has entered the play in Natchitoches and also, that the Gerson Oil & Gas Co. is resuming work on one of its old tests and plans

(Continued on Page 62)

Wildcat Operations in Louisiana-Arkansas

(Rotary operations unless otherwise designated)

North Louisiana

AVOYELLES PARISH

Company, well, farm name, section and block—	Remarks:
T. J. Woodley, tr.'s No. 1 Thompson & Koltz, 2,640 ft. E, 200 ft. S, NW cor. Sec. 11-2n-5e	Drlg. shale 1,360 ft.

BEAUREGARD PARISH

DeRidder Dev. Co.'s No. 1 McMahan, 155 ft. S, 160 ft. W, NE cor. NW Sec. 33-2s-9w	S.D. 1,265 ft.

BIENVILLE PARISH

Black Lake Dev. Co.'s No. 1 Petty Stave Co., NW NW Sec. 19-13-6w	Top chalk 2,480 ft; S.D. in shale 2,617 ft.
R. S. Ross et al's No. 1 W. M. Beck, NE NE Sec. 3-13-3	Rig up.

BOSSIER PARISH

Breazelle & Steckoll's No. 1 Nattin, C SW NE, Sec. 15-22-14	Set 6-in. 2,967 ft; swabbing; show oil and gas; T.D. 3,018 ft.
Breazeale & Steckoll's No. 2 Nattin, 300 ft. S and W, NE cor. NW NE Sec. 22-22-14	Derrick.
A. W. Phillips, tr.'s No. 1 Oden, 200 ft. W, 150 ft. N, SE cor. NW NW Sec. 4-12-13	Set 10-in. 96 ft; S.D.
Texana O. & G. Co.'s No. 1 Alford, 180 ft. S, 1,140 ft. W, C, Sec. 10-12-11	Drlg. shale 1,705 ft.

CADDO PARISH

Bolinger & Walker's No. 1 Thompson, SE SW Sec. 16-22-14	Derrick.
Caddo-Prairie Dev. Co.'s No. 1 Nichols, 660 ft. N, 400 ft. E, SW cor. NE SW Sec. 10-22-15	Coring 2,160 ft.

CLAIBORNE PARISH

Lone Oil Co.'s No. 1 Kiser, Sec. 2-21-7	Rigging up.
A. W. Phillips, Tr.'s No. 1 John Knighton, 330 ft. N, 330 ft. E SW cor. NE SE, Sec. 31-20-7	Derrick.
Robertson & Aurand's No. 1 Smith, 200 ft. S and E, NW cor. SE NE Sec. 8-21-7	Cored sandy shale 1,416 ft; S.D. 1,430 ft.

DE SOTO PARISH

Coker et al's No. 1 Boone, 200 ft. N and W, SE cor. SW NW Sec. 12-10-11	S.D. 60 ft.
Donley & Chastain's No. 1 H. Smith, 325 ft. W, 600 ft. N, SE cor. Sec. 31-14-15	S.D. 2,470 ft.
M. B. Gill's No. 1 W. J. Hill, 330 ft. N, 330 ft. E center Sec. 4-10-13	Location.
Honeycut O. & G. Co.'s No. 1 Porter, 423 ft. S, 414 ft. W, NE cor. NW NE Sec. 26-12-13	Top chalk 2,513 ft; cg. chalk 2,668 ft.
S. A. Guy's No. 1 Dowling, 469 ft. E, 383 ft. S, NW cor. NE Sec. 31-14-14	D.S. test 3,075 ft; dry; W.O.

(Continued on Page 62)

Opening of New Field at Pledger Is Confirmed; Southern Polk County Attracts Attention

By NEIL WILLIAMS
Staff Correspondent, Gulf Coast Fields

HOUSTON, Tex., Nov. 28.—The geophysical prospect of Pledger, northwestern Brazoria County, was definitely added to the rapidly increasing list of new Gulf Coast fields with the completion of Danciger Oil & Gas Co.'s No. 1 W. C. Hunt, W. Coirson Survey, late Sunday. Washed only an hour, the well blew in with a tremendous pressure. Because of increasing pressure, the well was shut in before it had entirely cleaned itself and Monday was standing shut in. Production was dry gas but the high pressure of the well would have prevented the showing up of any oil at that time. Wash water with the gas had an odor of oil. Pressure which exceeded the capacity of 2,000-pound gauges on the well, is estimated at 3,000 pounds through a one-half inch choke on the liner.

Pledger is a geophysical prospect, believed to be a deeply seated salt dome, which recently was taken over by Danciger Oil & Gas Co., a newcomer to the coastal district, after having been "worked" again with instruments. The area has been looked upon favorably for several years and originally was checked with geophysical work in 1929 by Humble Oil & Refining Co., Rycade Oil Corp. and others.

Location of the well is 5,220 feet from the north line and 6,500 feet from the east line of the W. Coirson Survey. While this is in Brazoria County, the prospect is just over the line from Matagorda County, the town of Pledger, for which the prospect is named, being in the latter county. The well was drilled by Hamill Drilling Co. of Houston which owns a one-quarter interest in the field. This is the first test on the prospect. Another deep test, Humble Oil & Refining Co.'s No. 1 Pierce estate, is being drilled in the Pledger district but this is on another geophysical prospect owned jointly by that company and Gulf Production Co., and located southwest of the town of Pledger in the Isaac Foster Survey, Matagorda County. It is over 7 miles from the Danciger well.

Attention again is being turned to southern Polk County where Dick Schwabb's second test, No. 2 Davis-Holmes, A. Viesca Survey, has reached the horizon in which his first well was completed over a month ago as a wet gasser, indicating the existence of another important new field similar to Conroe. The second test, located over 1,050 feet to the west and south of the discovery gasser, late in the week was coring in sandy shale at 4,247 feet. This formation, which had an odor of oil, was topped at 4,307 feet. A sand showing gas was encountered at 4,263-84 feet.

The Cockfield in this second test was topped at 4,304 feet, which is a little lower than in the first, in which that formation was topped at 4,244 feet. These depths are from the surface. Bottom of the hole in No. 1 is 4,311 feet. The second test is to be carried deeper into the pay than the first with a view to encountering oil as was done at Conroe, where first wells, completed in the top of the pay, were wet gassers. The two fields, located on the same trend, the Hockley shoreline, are in the same horizon.

The Schwabb wells are in what is known as the Sunshine district and are located south of a group of tests drilled several years ago in which showings were encountered in the Hockley around 3,300 feet. One small well was completed there. The second Schwabb test is being drilled on a Shell Petroleum Corp. lease, which company advanced $25,000 for the hole for an option on the first well and approximately 700 acres owned by Mr. Schwabb in the district.

Conroe Field

The importance of the Conroe Field was further emphasized the past week when more than 25 new locations were made. These will carry on a development program which spreads the drilling activity well out of the present limits of production. An entirely new light was thrown on the possibilities of the field when Tidal Oil Co. and Strake's No. 1 Lewis, Charles Stewart Survey, was found to be running unusually high. This test topped the Hockley at minus 3,815 feet, which is from 50 to 100 feet higher than any wells in the field, except some in the Ransom House and Wilson Strickland Surveys to the east. Formerly considered by the majority of geologists as being on the southwest edge of the field, which now runs in a northwesterly-southeasterly trend, the well now will force a new contour picture which will take in a considerable amount of additional acreage toward the southwest which has been looked upon as condemned by the former trend of development. This well bears out the original theories of G. W. Strake, discoverer of the field.

An important lead toward development in a northeasterly direction from production in Conroe was made the past week with completion of James Papadakis' No. 1 McDonald, John Davis Survey, which came in flowing 88 bbls. in the first 20 minutes, or at the rate of more than 6,000 bbls. daily. It is in sand at a total depth of 5,118 feet. Location is at the extreme present northeast edge of production, and being the best well so far completed, opens promising possibilities in that direction. It is on a five-acre lease which is surrounded by leases owned by Humble Oil & Refining Co. and Navarro Oil Co. Offsets now are drilling by these companies. Six other good wells were completed in the field during the week. There now are 58 producing wells, exclusive of two gassers, in the field which is being prorated to between 16,000 and 17,000 bbls. daily. At the close of the week there were 40 rigs actually running but, including derricks and new locations, there were 72 operations.

South Liberty

In the South Liberty Field, completion of Mecom Oil Co.'s No. 1 Barrett, M. G. White Survey, has opened a new development. This well, in a sand at a total depth of 3,692 feet, set three joints of screen and came in flowing at the rate of 40 bbls. an hour of 41 gravity pipe line oil. Location of the well is in the heart of the field on a 10-acre lease formerly owned by the Vacuum Oil Co. but the completion is in a new deeper sand and the oil is the first high gravity oil of importance which has been encountered there. A few wells on the extreme north side of the dome, which district received a spasmodic play several years ago, found some light oil but in the main field the bulk of production is oil under 30 gravity and at present except for the new well, there is no light oil anywhere around the dome. Offset wells, on a lease adjoining the Mecom Oil Co. tract to the east, are owned by Joe Bashara of Houston. The Bashara Oil Co., of which Mr. Bashara is president, will start work on deepening these offset wells at once.

Barbers Hill

Bashara Oil Co. late in the week completed a good well on the east flank of Barbers Hill in its No. 2 Tarbutton, which in a sand at a total depth of 4,303 feet came in flowing 900 bbls. daily net oil through a one-half inch choke. Three new locations were made at Barbers Hill, these being Sinclair Prairie Oil Co.'s No. 13 Wilburn and Sun Oil Co.'s No. 15 J. Wilburn on the east side and Mills Bennett Production Co.'s No. 1-C Gulf Fisher fee, south flank. The latter is on the extreme west end of the south side deep sand play which took place during 1928 and 1929. The location is 150 feet north of Gulf Production Co.'s No. 1 Fisher fee, a producer at 5,600 feet, and being closer into the dome, will mark another attempt on the part of that company to drill through salt in that area.

Good Well at Iowa

Shell Petroleum Corp. added another good well at Iowa on the Calcasieu-Jefferson Davis Parish line, coastal Louisiana. This well, the fifth for the field, came in flowing 50 bbls. of pipe line oil per hour through an eighteen-sixty-fourth inch choke. Sand is at 6,931-38 feet, the same horizon from which the other four wells are producing. The well offsets to the east Magnolia Petroleum Co.'s No. 2 Waite.

Rabbs Ridge

At Rabbs Ridge, Fort Bend County, two wells were brought in, both in the north extension district. These were Gulf Production Co.'s No. 1 Edwards & Riggins, good for 1,400 bbls. daily at 5,271 feet, and Humble Oil & Refining Co.'s No. 1 Gubbels, 1,350 bbls. daily, 5,325 feet. They are offsets and on the extreme east end the latter being the farthest east. Humble Oil & Refining Co. and Gulf Production Co.'s joint No. 3 Davis has been junked and abandoned at 6,829 feet, the deepest hole in the field. It is on the extreme south end of the field.

Harris County

Crown-Framer Oil Co.'s No. 3 Minnetex, Mykawa, Harris County, has made a small well in sand at 4,864 feet. Production is around 85 bbls. daily. No. 2 Minnetex has been worked over and has been put on the pump for around 100 bbls. daily in the same sand.

Refugio County

In the McFaddin district, lower Gulf Coast country, Humble Oil & Refining Co.'s No. 3 O'Connor, Florentina Rice Survey, northern Refugio County, is swabbing around 175 bbls. daily but is not completed. It is in sand at 3,148 feet, in which one joint of screen was set. This is a new shallow sand, the discovery well having been in sand at 4,155 feet and The Texas Company's No. 3 McFaddin in a deep pay. These are the only oil producers which have been completed and at present none, except the No. 2 O'Connor, is producing, the others having been abandoned.

Gulf Coast Fields and Wildcats

Week Ending November 21

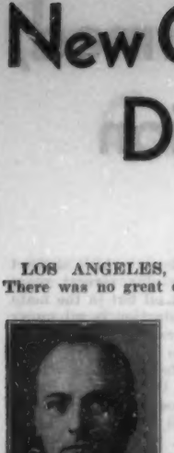
Company, farm and location—	Remarks:
RACCOON BEND—AUSTIN COUNTY	
Callicott et al's (Grant & Baker's) No. 1 Chesley, W. C. White Sur., 150 ft. from NW line and 150 ft. from SW line of 26-acre tract	Shut down 3,042 ft.
Humble Oil & Ref. Co.'s No. 4 S. E. Helmuth, Wm. Harvey Sur.	Location.
Humble Oil & Ref. Co.'s No. 8 Woodley, Wm. Harvey Sur., 2,350 ft. southeasterly along SE line from SW cor. of tract and thence 412 ft. northeasterly at right angles	Swabbing 3,449 ft.
DAMON MOUND—BRAZORIA COUNTY	
Intercoastal Oil Co.'s No. 10 Wisdom, A. Darst Sur., 440 ft. from NW line and 170 ft. from SW line of tract	Drlg. hard sand rock 2,746 ft.
Sinclair Oil & Gas Co.'s No. 3 Norton (W.O.), P. D. McNeel Sur., 230 ft. from NE line and 303 ft. from SE line of 150-acre tract	Pulling screen to work over 3,651 ft.
H. Wisdom's No. 1 Wisdom, 50 ft. from SE line and 75 ft. from SW line of Blk. 5, Lot A, A. Darst Sur.	Rig.
WEST COLUMBIA—BRAZORIA COUNTY	
The Texas Company's No. 68 Hogg (W.O.), G. Tennille Sur.	T.D. 3,171 ft.; sidetracked at 3,100 ft. and drlg. shale 3,131 ft.
BARBERS HILL—CHAMBERS COUNTY	
Joe Bashara's No. 2 Tarbutton (D.D.), Henry Griffith League	Set 144 ft. of 5-in. screen 4,303 ft.; comp. flowing 900 bbls. net oil, 20% water, ½-in. choke.
R. E. Ferrell's No. 2 Wilburn, Henry Griffith League, 215 ft. W of No. 1 in center of 45-acre tract	T.D. 3,000 ft. in shale; fishing.
Humble Oil & Ref. Co.'s No. 1 Kirby, Henry Griffith League, 208 ft. from S line and 160 ft. from E line of lease	Salt 1,423 ft.; losing returns.
Mills Bennett Prod. Co.'s No. 1-C Gulf Fee, Wm. Bloodgood Sur., 150 ft. N of Gulf's No. 1 Fisher Fee	Location.
Mills Bennett Prod. Co.'s No. 5 Means, Henry Griffith League, 200 ft. W of No. 4	Coring sandy shale 4,114 ft.
Mills Bennett Prod. Co.'s No. 5 Kirby, Henry Griffith League, 400 ft. from W line and 41 ft. from S line of tract	Salt 1,366-1,414 ft.; cmtd. hole to 1,294 ft.; drlg. cement 1,368 ft.
D. B. McDaniels' No. 6 Wilburn, Henry Griffith League, 240 ft. W of No. 5	Hard sand 916 ft.; cmtd. 20-in. csg. 135 ft.
Moody Corp.'s No. 1 Ilfrey (W.O.), Henry Griffith League, NW cor. of lease	T.D. 5,308 ft.; cutting and pulling screen to work over.
Sinclair Prairie Oil Co.'s No. 13 Wilburn, Henry Griffith League, 150 ft. W of No. 11	Rigging up.
The Texas Company's No. 3 Lawrence fee, Henry Griffith League, 740 ft. W of E line in C of tract	T.D. 1,336 ft. in cavity; cmtd. hole to 1,074 ft.

(Continued on Page 67)

New Completion in North Dome Kettleman Hills; Deep Test Is Planned for Lost Hills Field

By L. P. STOCKMAN
Staff Correspondent, California Fields

LOS ANGELES, Calif., Nov. 26.—There was no great change in state production during the past week with the result that daily production continued to be approximately 30,000 bbls. in excess of the current allowable of 440,000 bbls. per day. Gasoline tax figures just released show a decline over both the previous month and October, 1931. Gasoline sales in California during October, 1932, totaled 111,125,872 gallons, compared with 116,084,737 gallons in September, 1932, and 113,630,907 gallons in October, 1931. Sales during November and December are expected to continue below comparable periods last year. Crude oil producers in a number of fields are still producing in excess of the prescribed allowable, despite this continued decline in gasoline consumption. Gasoline stocks on the Pacific Coast increased 278,178 bbls. during October, and the storage at the close of the past month was 297,490 bbls. in excess of the quantity on hand at this time one year ago.



It is the consensus of opinion that the existing price structure for crude can be maintained during the winter, provided producers curtail production to within striking distance of the allowable. The necessity of reducing crude production will become more evident when the rainy season sets in and the demand for motor fuel reflects the seasonal tendency. Most of the excess production in California is coming from Kettleman Hills, Long Beach, Santa Fe Springs and Playa Del Rey. It is obvious the effectiveness of the curtailment program during the next several months will depend upon the attitude of producers in these fields. Ventura Avenue has been showing a slight excess, but this overage is due to the fact that the Associated and Shell are making up an underage accumulated during the summer when production was reduced below the allowable to eliminate the waste of natural gas.

Kettleman Hills

The Petroleum Securities, and E. L. Doheny Co., successfully completed another new well in the North Dome of Kettleman Hills early in the current week when No. 3 Felix was brought in flowing 2,243 bbls. of 37.2 gravity oil per day from 8,516 feet. This new well, the third successful completion of Petroleum Securities in the North Dome, has subsequently built up to 5,120 bbls., but is being beaned back in conformity with the curtailment program. Petroleum Securities has a potential daily production of approximately 20,000 bbls. from three wells completed in this field up to the present. The Kettleman North Dome Association has started rig construction for No. 38-20 J and the bit in this hole, an offset to the Standard's No. 41-29 J down 6,550 feet, should begin making hole within 10 days. Kenda's deep test, No. 38-34 J is rotating in a hard dark gray sand at 8,650 feet. Two new wells are scheduled to get under way in the Huffman area within a few weeks as the Union Oil Co. is pouring foundations for No. 3 Amerada King and the Standard is about ready to begin making hole on No. 25-35 J. In the area west of the Huffman section of the field, the North Kettleman Oil & Gas Co. is rotating in No. 1 Lillis-Welsh in a sandy shale at 9,705 feet. The Bolsa Chica Oil Co. is making preparations to abandon No. 1 Ferguson as a duster at 7,768 feet. This project, far out on the south flank of the structure in Section 24-22-17, failed to show anything resembling commercial production and, with the log running approximately 2,000 feet lower stratigraphically than neighboring producers, it was deemed advisable to abandon the project.

Buttonwillow

The Milham Exploration Co. completed another gas well in the Buttonwillow gas field of Kern County and the crew is expected to begin drilling on No. 1 Sisson, a new project in Section 6-28-23. The Milham's latest completion in this area was No. 43 S. P., in Section 1-28-22. It was bottomed at 2,564 feet and showed an initial daily production of 13,950,000 feet of gas per day. This well, finished with a 6⅝-inch liner carrying 150 feet of perforated, is standing shut in under a casing pressure of 925 pounds. The Belridge Oil Co. ran into mechanical trouble while endeavoring to complete its No. 51-27 in the North Belridge Field of Kern County and it will probably be another couple of weeks before any further progress can be made. The company in endeavoring to complete this well ran in a string of 6⅝-inch casing but it froze at 5,386 feet. The pipe was pulled to 5,115 feet but the remainder fell to the bottom and the crew is attempting to recover the fish. Continental Oil Co. failed to secure an effective water shutoff in No. 3 Result, a drilling well in the North Belridge Field, and the well was recemented. The cement has just been drilled out and a test is under way to determine the effectiveness of the recement job. No. 1 Bloemer of the Ohio Oil Co. is rotating in a sandy shale at 7,650 feet. This well, outside the productive limits of the North Belridge Field, is being carried down as a deep test to determine the possibility of developing lower production before abandoning the lease.

Midway-Sunset

The Standard Oil Co. has cleaned out No. 1 Mascot, a deep test in the Midway-Sunset Field of Kern County, to 9,573 feet and will give the well an open-hole test between 9,302 feet and 9,760 feet before proceding with any further work. Field reports indicate the probability this well will be abandoned if the present test is unsuccessful. The Belmont Midway Oil Co. has landed a string of 8⅝-inch casing in No. 1 Powell at 1,878 feet preparatory to conducting an early production test. This well, bottomed at 1,920 feet, is believed to have encountered a new and possibly productive zone in Section 22-32-23. This new sand was logged at 1,837 feet and the bit was still in the pay at 1,920 feet. The Brookshire Oil Co. is cleaning out its No. 13 in Section 24-31-22, at 3,700 feet preparatory to making a production test. North American Oil Consolidated Co. has staked location for an outpost in the Buena Vista Lake district in Section 32-31-24.

The Pacific Western Oil Co. has taken over the wildcat of Knudsen & Schmidt in the Pyramid Hills area in Section 36-23-17 and will make a little more hole and test the Temblor sand believed to be present. There were no developments of particular importance in the Fruitvale Field of Kern County, with the possible exception of the starting of a new well by the Fruitvale Oil Co. on the Lane property in Section 15-29-27. The Kern Petroleum Corp. is rigging up pumping equipment preparatory to completing No. 1 in the Fruitvale Field at 4,182 feet. Two new wells are nearing completion in the Round Mountain Field and two additional wells are making hole. The next producer in this district should be the Golden Bear Oil Co.'s No. 3, which logged the top of the Vedder zone at 1,628 feet, and should be followed into production within a short time by No. 3 Coffee of the Petroleum Securities.

Lost Hills

The Associated is expected to begin making hole in No. 1 Williamson in the Lost Hills Field of Kern County within 10 days. This projected deep test, in Section 2-26-20, is a joint project with the Richfield Oil Co. and is being undertaken for the purpose of determining deep zone possibilities of the Lost Hills Field. There have been several deep tests drilled in this area but in each instance a high head water has flooded the hole and prevented conclusive tests. No. 1 Williamson is of prime importance from a production standpoint because if the Temblor or underlying formations are found productive it will open an extensive area. Lost Hills Field is several times larger than North Belridge Field, where Temblor production has already been developed, and should be relatively larger from a productive standpoint. Lost Hills is in a direct line between Belridge and Kettleman Hills and the outlook for Temblor production is rather favorable as this sand has been found productive at both Kettleman Hills and North Belridge. It may be possible that lack of closure in the southern end of the South Dome of Kettleman Hills and a similar condition in the northern tip of Lost Hills may have prevented a substantial accumulation such as has occurred in the North and Middle Domes of Kettleman Hills and in the North Belridge Field to the south.

In the Devils Den area of Kern County the Pyramid Hills Oil Co. has suspended drilling operations in its No. 1 but both Tom Hanna and A. S. Hallaway are working on their respective tests. This area has looked both promising and unfavorable during work extending over several years, although no operator has succeeded in developing commercial production. In the McKittrick Field, Thomas H. Purman is rotating in a sandy brown shale in a test in Section 22-29-21, and this may bear watching as it is not improbable the Temblor in this area may be found productive. John F. Oliver is rigging up rotary equipment preparatory to starting a new wildcat in the Raisin City district of Fresno County north of Kettleman Hills. The Associated stepped into the Raisin City area a few years ago and drilled several deep tests but failed to open up a new field. One of the Associated's wells looked rather promising but failed to show commercial production.

Richfield

The Forward Petroleum Co. has completed No. 2 Davenport in the Richfield district of Los Angeles Basin flowing 125 bbls. of exceptionally clean 31.4 gravity oil and 575,000 feet of gas per day through a one-half inch bean under a pressure on the casing of 340 pounds. This well, bottomed at 3,832 feet, was brought in barefoot as the hole is open between 3,764 feet and bottom, 3,832 feet. The completion represents some excellent drilling and careful geological work as very few operators would have been willing to undertake the drilling of this well because of its structural position. In the Seal Beach Field the Continental Oil Co. is fishing for a line in No. 33 Bixby at 5,000 feet preparatory to reconditioning the hole.

In the Playa Del Rey Field of Los Angeles Basin, the Union secured a water shut-off in No. 2 Vidor at 5,790 feet and this well should be on production within 10 days. The Union has moved in material for No. 5 Del Rey, a direct offset of No. 2 Vidor. The Standard should complete No. 111 Murphy Coyate in the West Coyote Field within a few days as this project, bottomed at 6,287 feet but plugged back to 6,037 feet, has just been finished with a 6⅝-inch liner carrying 812 feet of 100 mesh screen. No. 112 Murphy Coyote is standing cemented at 5,545 feet with drilling operations scheduled to be resumed within a few days.

The Union is increasing its develop-

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

	Nov. 12, 1932		Nov. 5, 1932			
	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Intercoastal-domestic—						
Crude oil	.....	.....	.....	.....	116,812	.....
Diesel and gas oil	77,125	11,018	104,504	14,929	945,251	1,473,198
Gasoline	117,418	16,774	73,008	10,430	6,991,755	11,855,404
Kerosene	.....	.....	.....	.....	177,062	187,934
Foreign exports—						
Crude oil	39,730	5,676	86,958	12,423	7,163,597	6,495,003
Fuel oil	167,010	23,859	74,747	10,678	7,053,462	11,863,576
Diesel and gas oil	70,666	10,095	129,218	18,460	2,248,511	3,178,775
Gasoline	360,348	51,478	.....	.....	7,247,257	7,426,700
Kerosene	25,894	3,699	.....	.....	2,568,204	1,627,963
Lubricants	.....	.....	.....	.....	.....	36,353
Naphtha distillates	.....	.....	.....	.....	120,075	.....
Coastwise-domestic—						
Crude oil	141,686	20,241	266,750	38,107	12,449,986	18,873,300
Fuel oil	396,561	56,652	.....	.....	10,553,360	11,832,310
Diesel and gas oil	9,404	1,343	4,969	710	1,155,508	1,314,957
Gasoline	327,932	46,847	181,059	25,866	13,196,535	12,833,155
Kerosene	.....	.....	.....	.....	142,730	288,799
Naphtha distillates	.....	.....	.....	.....	.....	4,952

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic—						
Diesel and gas oil	.....	.....	.....	.....	650,980	.....
Gasoline	158,598	22,657	.....	.....	1,070,406	955,369
Kerosene	.....	.....	.....	.....	152,611	.....
Lubricants	.....	.....	.....	.....	31,804	38,236
Foreign exports—						
Crude oil	.....	.....	.....	.....	889,922	494,511
Fuel oil	.....	.....	.....	.....	904,079	1,490,526
Diesel and gas oil	79,135	11,305	.....	.....	687,142	535,650
Gasoline	21,652	3,093	41,732	5,962	3,464,651	4,160,674
Kerosene	11,368	1,624	.....	.....	966,995	802,322
Lubricants	.....	.....	.....	.....	30,094	25,692
Coastwise-domestic—						
Fuel oil	64,310	9,187	89,332	12,762	2,620,090	3,105,238
Diesel and gas oil	.....	.....	7,104	1,015	330,118	361,089
Gasoline	80,187	11,455	109,210	15,601	3,260,086	3,938,689
Kerosene	6,914	988	18,316	2,617	116,953	284,095
Naphtha distillates	.....	.....	.....	.....	.....	49,780

ment work in the Domingues Field by starting a new well, No. 19, on the Hellman property and rigging up No. 21 Callender preparatory to deepening to the third Callender zone. The Union has suspended work on No. 5 Carson at 5,608 feet and work on No. 1 Childs of the Republic Petroleum is nearing an end as this hole is being tested by stages before being abandoned. The Wilshire has reduced its drilling operations in the Potrero Field to one well on the Potrero Country Club property and no further development is anticipated for the present. Barnsdall has taken No. 2 Trust off production and this well, a recent completion in the Rosecrans Field, will be reconditioned before being put back on production. The perforations are being washed in the hope of stimulating production as the initial production has been somewhat disappointing. Barnsdall is believed to have picked up a new deep zone in No. 2 Trust but the productivity of this sand will not be determined until it is tried out at some point nearer the apex of the structure.

Long Beach

Drilling activities in the Long Beach Field have shown an increasing tendency during the past few weeks, particularly in the Frogpond area and, while most of the work consists of reconditioning jobs, there are several incompleted drilling projects under way. The Dabney-Johnston Oil Corp. completed No. 87 Signal in the Long Beach Field early in the week and this well, bottomed at 5,219 feet and finished with a 4¾-inch liner, including 380 feet of perforated, showed an initial daily production of 928 bbls., the oil testing 26.2 degrees and showing a cut of 15 per cent. Present production approximates 825 bbls. but the cut is still in excess of 10 per cent. The Long Beach Petroleum Corp. has recompleted No. 8 Indian after redrilling this 5,755-foot hole to 4,882 feet, and it is pumping 312 bbls. of relatively clean 27.1 gravity oil per day. This well was originally drilled and completed by A. J. (Art) Delaney several years ago. The National Securities Oil Co. has just recompleted No. 3 Seeple after plugging back from 6,980 feet to 5,002 feet. Previous to completion, the 4¾-inch casing was pulled from 4,960 feet and the 6⅝-inch perforated between 4,595 feet and 4,850 feet. The well was completed on the beam pumping 278 bbls. of exceptionally clean 26.5 gravity oil per day. This is one of the cleanest wells finished in the Long Beach Field for several months.

Wildcats

The Western Gulf Oil Co. is expected to begin making hole on a wildcat on the Johnson ranch in the Watsonville area of Monterey County next week. The site of the Western Gulf's new wildcat is about one-half mile beyond the Watsonville Airport and drilling operations will be under the personal supervision of W. H. Cox, who was in charge of No. 1 Bradley in the Santa Maria area, which recently established a deep drilling record of 10,296 feet. Approximately 11,000 acres have been tied up in the Watsonville area by the Western Gulf and the Donnor Corp. and the projected deep test is the outcome of a series of core holes completed several months ago. The Buttes Oilfields Co. recently spudded in a new wildcat in the Marysville Buttes in Sutter County. Officials of the company, anticipating the development of substantial gas pressure, have taken extraordinary precautions to prevent a premature blowout. The cellar of this rig is modeled after a set of specifications used in Mexican oil fields and is said to be the only one of its type in the United States. It has 2-foot concrete walls from top to bottom and a 5-foot concrete base which is toed in under the side walls and into the surrounding formation. Through this concrete base run eight 2-inch eye bolts with 1-inch steel plates at their base. The crew is prepared to anchor the pipe and lead lines should high pressures occur. The well of the Buttes Oilfields Co. is being drilled in an area where gas seepages have been known to exist for a number of years.

IMPORTANT NORTHERN CALIFORNIA WILDCATS

Company, well, location—	S.T.R.	Depth	Status
Standard, No. 1 Santa Rosa Island, Santa Barbara Co.	unsurveyed	4,908	gr. sd. drilling
Lee, W. M., No. 1 Lompoc, Santa Barbara Co.	28- 8-34	....	material
Superior Oil Co., No. 9 Santa Maria, Santa Barbara Co.	28-10-33	815	abandoned
Superior Oil Co., No. 10 Santa Maria, Santa Barbara Co.	19-10-33	rig	rigging up
Equity Oil Co., No. 1 Coal Oil Point, Santa Barbara Co.	24- 4-29	3,750	suspended
Bolsa Chica, No. 1 Coal Oil Point, Santa Barbara Co.	25- 4-29	4,089	suspended
Deuel & Associates, No. 1 Naples, Santa Barbara Co.	7- 4-29	5,134	suspended
Oakburn Oil Co., No. 1 Capitan, Santa Barbara Co.	tideland	2,821	cleaning out
Casitas Oil Co., No. 1 Carpinteria, Santa Barbara Co.	tideland	2,571	br. sh. drilling
Cuyama Oil Co., No. 1 Cuyama, Santa Barbara Co.	12-10-27	2,162	sd. sh. drilling
Cebren & Perkins, No. 1 Cuyama, Santa Barbara Co.	27-10-26	rig	suspended
Woodrow Pet., No. 1 Rincon, Ventura Co.	4- 3-24	5,790	br. sh. drilling
Indian Pet., No. 1 Rincon, Ventura Co.	tideland	1,080	sd. sh. drilling
Sovereign Oil Co., No. 1 Fillmore, Ventura Co.	23- 4-19	1,125	set pipe
Honolulu Consolidated, No. 1 Miguelito, Ventura Co.	23- 3-24	2,118	sd. sh. drilling
Wilshire Oil Co., No. 1 Sulphur Mountain, Ventura Co.	20- 4-21	1,073	br. sh. drilling
Superior Oil Co., No. 1 Timber Canyon, Ventura Co.	13- 4-21	6,807	hd. sh. drilling
Hardison & Temple, No. 1 Santa Paula, Ventura Co.	22- 4-21	219	suspended
International Oil Developers, No. 1 Conejo, Ventura Co.	33- 2-20	2,215	reaming
Las Posas Pet. Co., No. 1 Las Posas, Ventura Co.	22- 2-20	rig	suspended
Strobeck, G. L., No. 1 Ojai, Ventura Co.	34- 4-23	298	suspended
Milham Exploration, No. 20 Buttonwillow, Kern Co.	1-28-22	2,543	14,000 M. gas
Milham Exploration, No. 21 Buttonwillow, Kern Co.	6-28-22	rig	rigging up
Furman, T. H., No. 1 McKittrick, Kern Co.	22-29-21	4,902	br. sh. drilling
Welport Oil Co., No. 2 McKittrick, Kern Co.	19-29-21	760	cleaning out
Ozena Oil Co., No. 2 McKittrick, Kern Co.	27-29-31	3,031	plug 2,943 ft.
General Pet., No. 1 Beiridge, Kern Co.	36-28-21	8,260	suspended
Wallace, K. C., No. 1 Beiridge, Kern Co.	32-29-21	4,322	suspended
Cumberland Oil Co., No. 2 Devils Den, Kern Co.	17-26-18	3,263	suspended
Hallaway, A. S., No. 1 Devils Den, Kern Co.	11-25-18	913	rig rotary
Hannah, Tom, No. 1 Devils Den, Kern Co.	26-25-18	3,516	cemented
Pyramid Hills Oil Co., No. 1 Devils Den, Kern Co.	24-25-18	2,191	suspended
Fowler, F., No. 1 Blackwell Corner, Kern Co.	15-26-19	3,170	suspended
Associated, No. 1 Lost Hills, Kern Co.	2-26-20	mtl.	deep test
Kingsburg Expl. Co., No. 1 Kingsburg, Fresno Co.	30-16-23	2,970	suspended
Oliver, J. F., No. 1 Raisin City, Fresno Co.	20-15-18	rig	rigging up
Kent & McDonald, No. 1 Carrizo Plains, S. Luis Obispo Co.	3-32-22	3,660	br. sh. drilling
Emerich Oil Co., No. 1 Carrizo Plains, San Luis Obispo Co.	22-32-22	1,841	suspended
Indian Dome Oil Co., No. 1 Edna, San Luis Obispo Co.	26-31-12	3,352	suspended
Paso Robles Oil Co., No. 1 Edna, San Luis Obispo Co.	27-27-11	4,191	suspended
Schilling, C., No. 1 Atascadero, San Luis Obispo Co.	1-29-12	1,650	suspended
Shell, No. 1 San Miguel, San Luis Obispo Co.	4-25-12	3,801	br. sh. drilling
Pacific Inland, Well No. 1, Monterey Co.	19-23-15	2,441	suspended
Brown, W. F., No. 1 Parkfield, Monterey Co.	15-23-14	1,951	suspended
Guess, E. B., No. 1 Corcoran, Kings Co.	7-21-21	6,197	suspended
Woodward, Glen, No. 1 Dudley Ridge, Kings Co.	32-22-20	775	suspended
Scott Bros. Drlg. Co., No. 1 Dudley Ridge, Kings Co.	18-22-19	1,843	suspended
Irma Investment Co., No. 2 Dudley Ridge, Kings Co.	7-23-20	1,324	suspended
Triune Oil Co., No. 1 Dudley Ridge, Kings Co.	5-23-20	1,098	testing
Dudley Dome Oil Co., No. 1 Dudley Ridge, Kings Co.	9-23-20	1,997	suspended
Eagle Oil Co., No. 2 Dudley Ridge, Kings Co.	15-23-20	1,342	suspended
Knudsen & Schmidt, No. 1 Reef Ridge, Kings Co.	36-23-17	5,812	cleaning out
Kettleman Ridge Oil Co., No. 1 Avenal, Kings Co.	10-23-16	1,145	suspended
Magee & Stone, No. 1 Alpaugh, Kings Co.	34-24-22	5,060	suspended
Western Resource Corp., No. 3 Dudley Ridge, Kings Co.	12-23-22	1,840	suspended
Ducor Pet. Co., No. 1 Ducor, Tulare Co.	14-24-27	2,200	suspended
Inland Valley Oil Co., No. 1 Visalia, Tulare Co.	24-17-24	2,092	suspended
Sheldon & Gholson, No. 1 Portersville, Tulare Co.	34-22-27	962	suspended
Hayman Oil Co., No. 1 Porterville, Tulare Co.	17-23-28	380	suspended
Ellis & Sanford, No. 1 Tulare Lake, Tulare Co.	20-24-23	1,490	suspended
Napa Oil Co., No. 1 Griffith, Napa Co.	7- 8- 3	3,244	sd. sh. drilling
Oakdale Oil Co., No. 1 Oakdale, Stanislaus Co.	5- 2-10	4,813	sd. sh. drilling
Bilderbrandt, R., No. 1 Crows Landing, Stanislaus Co.	36- 6- 7	1,130	suspended
Rushing Oil Co., No. 1 Waterford, Stanislaus Co.	20- 3-13	2,650	sd. sh. drilling
Pacific Northern Oil Co., No. 1 Guinda, Yolo County	23-12- 3	3,045	suspended
Bergman, Harry, No. 1 Dos Palos, Merced Co.	12-13-11	642	sd. sh. drilling
Los Banos Pet., No. 1 Los Banos, Merced Co.	26-10- 9	rig	suspended
Western Gulf, No. 1 Watsonville, Monterey Co.	29-12-2	mtl.	building rig
Butters Oilfields Co., No. 1 Marysville, Sutter Co.	.....	1,102	hd. sd. drilling

IMPORTANT SOUTHERN CALIFORNIA WILDCATS

Company, well, location—	S.T.R.	Depth	Status
Hines Pet., No. 1 Ocean Park, Los Angeles Co.	8- 2-15	7,414	suspended
Taylor Oil Co., No. 1 Culver, Los Angeles Co.	12- 2-15	6,238	suspended
Co-operative Dev. Co., No. 1 Del Rey, Los Angeles Co.	26- 2-15	6,360	br. sh. drilling
Del Rey Hills Corp., No. 1 Del Rey, Los Angeles Co.	26- 2-15	rig	rigging up
Palm Ridge Oil Co., No. 1 Palms, Los Angeles Co.	2- 2-15	2,124	suspended
Lawndale Pioneers, Inc., No. 1 Peck, Los Angeles Co.	20- 3-14	6,378	suspended
Hogan, N. S., No. 1 Hawthorne, Los Angeles Co.	23- 3-14	800	resume work
Baldwin Oil Co., No. 9 Inglewood, Los Angeles Co.	7- 2-14	5,696	recemented
Baldwin Hills Synd., No. 1 Inglewood, Los Angeles Co.	17- 2-14	4,090	suspended
Kyle, W. A., No. 1 Inglewood, Los Angeles Co.	7- 2-14	4,316	suspended
Pacific Oil Inv. Co., No. 1 Wilmington, Los Angeles Co.	28- 4-13	rig	rigging up
El Dorado Oil Co., No. 1 Puente, Los Angeles Co.	30- 2- 9	2,860	suspended
Jones, W. L., No. 1 Lynwood, Los Angeles Co.	31- 2-12	4,421	reaming
Blinn & Gray, No. 1 Montebello, Los Angeles Co.	6- 2-11	5,060	suspended
Hutcheson & Andrus, No. 1 El Monte, Los Angeles Co.	11- 1-11	1,010	sd. sh. drilling
Yellowstone Oil Co., No. 1 Alhambra, Los Angeles Co.	24- 1-13	3,919	suspended
Smith, J. H., No. 1 Halsey, Los Angeles Co.	32- 5-17	3,212	redrilling
Superba Pet., No. 1 Newhall, Los Angeles Co.	11- 3-16	214	suspended
Ball, W. T., No. 1 Newhall, Los Angeles Co.	34- 3-16	3,582	fishing
Security Dev. Co., No. 1 Newhall, Los Angeles Co.	31- 5-14	416	suspended
Ajax Pet., No. 1 Newport, Orange Co.	21- 6-10	7,259	suspended
Nuoli Co., No. 1 Newport, Orange Co.	29- 6-10	1,976	suspended
Mineral Exploration, No. 1 Capistrano, Orange Co.	8- 8- 7	3,790	suspended
Orangethorpe Pet., No. 1 Brea, Orange Co.	32- 3-10	4,560	suspended
Shallemiller, M., No. 1 Huntington, Orange Co.	35- 2-11	2,000	suspended
Spindletop Oil Co., No. 1 Salton Sea, Riverside Co.	35- 7-10	3,590	suspended
Duncan, N. I., No. 1 Sagebrush, Riverside Co.	8- 4- 6	1,157	suspended
Colan Dev. Co., No. 1 Redlands, San Bernardino Co.	25- 1- 2	2,392	suspended
Great American Pet., No. 1 Chino, San Bernardino Co.	18- 2- 8	298	cleaning out
Mason Oil Co., No. 1 Salton Sea, Imperial Co.	1-17-15	680	suspended
Woods, D. H., No. 1 Salton Sea, Imperial Co.	7-11-16	774	suspended
San Felipe Oil Co., No. 1 Borega, San Diego Co.	25-11- 9	494	suspended
South Bay Oil Co., No. 1 Border, San Diego Co.	21-18- 2	1,243	suspended

Five Completions Reported in Michigan; State Producing 22,700 Bbls. Daily

By GEORGE A. WHITNEY

MOUNT PLEASANT, Mich., Nov. 28. Five completions were reported from the Central Michigan Field, four of which are producers and one reported with 500 feet of oil in the hole will be treated. The best well was Pure Oil Co.'s No. 6, 1,650 feet from the north line and 330 feet from the east line of the Charles Mullett farm, N half SW SE Section 15, Greendale Township, Midland County, with an initial of 500 bbls. from the Dundee formation.

W. L. McClanahan, Inc.'s No. 1 well, 330 feet from the south and east lines of the Wilhelm-Johnson farm, SE SE SW, Section 12, Greendale Township, is reported with an initial of 300 bbls. Same company's No. 7 well, 330 feet from the north and east lines of the A. G. Struble farm, NE NE SW Section 10, same township, is reported with an initial of 100 bbls. Only one more location remains to be drilled on the Struble farm. It was on the Struble farm that more than a year ago a big well was struck on what had been considered wildcat territory with little commercial prospects. Following No. 1 Struble, development east of the old field, now reaching out more than 2 miles east of the well, rapidly moved forward.

Braden-Saunders Co.'s No. 2 well, 990 feet from the north line and 330 feet from the west line of the Kate Stapleton farm, SW NW NE Section 13, Greendale Township, is reported with an initial of 150 bbls.

Gordon Oil Co.'s No. 2 well, 330 feet from the north and west lines of the William D. Hewitt farm, NW NW NW Section 18, Lee Township, Midland County, failed to make a flow from the Dundee, but 500 feet of oil stands in the hole which will probably be treated.

Michigan Production

Total oil production in Michigan for the first nine months of 1932 has been in excess of 5,000,000 bbls., which is higher than for any previous entire year, according to figures released by the geological survey division of the State Conservation Department. A new high production record was reached during September when 759,887 bbls. were produced in the state. Of this more than 600,000 bbls. was produced in the Central Michigan Field while the Muskegon and Saginaw Pools made up the remainder.

Production at the close of September in the Central Michigan Fields amounted to more than 20,000 bbls. a day, while the past week's daily average reached 22,700 bbls. This production is composed of a trickling from Saginaw territory, approximately 2,000 bbls. a day from the Muskegon area, and over 20,000 bbls. from the Central Michigan area.

Nearing Completion

W. L. McClanahan, Inc., is reported around 3,400 feet in No. 2, in the northeast corner of the W. S. Root farm, NE NE SW Section 12, Greendale Township, Midland County. Pure Oil Co.'s No. 3 well, 990 feet from the south line and 330 feet from the west line of the A. Seeley farm, SW SE Section 9, Greendale Township, is drilling in the Dundee formation. R. D. Malcolm's No. 2 on the Hastings farm, NE SE SE Section 13, Greendale Township, is nearing the Dundee formation, and R. D. Malcolm's No. 2, in the southeast corner of the Nickerson farm, in the same section, is nearing the Dundee. Goll-Graves & Meckling's No. 2 well, 330 feet from the south line and 990 feet from the east line of the C. F. Adams farm, SW NW Section 2, Chippewa Township, Isabella County, is near completion.

Northwest of the old production in Chippewa Township, Isabella County, C. Fred White and others' test in the southeast corner of the W. A. Dennis and others farm, SE NW Section 3, Chippewa Township, is being closely watched. Late advice from the well is that it is running from 5 to 8 feet high on structure, and should be completed within a week or so.

Pure Oil Co.'s No. 1 well, 2,310 feet from the south line and 330 feet from the east line of the Mattie Yost farm, in the S three-quarters of the W half of Section 35, Greendale Township, Midland County, is drilling around 2,000 feet, and is an important test. Michigan Gas & Oil Co. is still shut down at 3,540 feet on the B. Rayner farm, SW SW SW Section 6, Lee Township, Midland County. Theodore Oil Co. is reported 3,000 feet on the Thompson Brothers farm, near Farwell, SE SW NE Section 35, Greenwood Township, Clare County.

Drilling Permits

Permit has been issued to the Wellman Oil Co. for No. 3 well, 330 feet from the south line and 990 feet from the east line of the John Bolen farm, SW SE NE Section 14, Greendale Township, Midland County; to the Pure Oil Co. for

(Continued on Page 62)

Eleven Completions in the Central Ohio District; Kentucky Expecting New Developments

By GEORGE A. WHITNEY
Staff Correspondent, Central West Fields

FINDLAY, Ohio, Nov. 28.—In the Tiffin Field of Seneca County, Byron Jones & Son drilled in a dry hole on the John Cessna farm, Section 6, Liberty Township. M. E. Kiser's second test on the I. E. Koerfer farm, Section 34, same township, is a light gas well, as is R. E. Green's No. 2 on the T. C. and B. G. Shoull farm, Section 30, same township. In Hopewell Township, same county, the Sandusky Gas Co. drilled in a light gas well in No. 2 on the D. S. Hostler farm, Section 3, and Tiffin Industrial Gas Co. is drilling No. 3 on the Frank Feasel farm, Section 2, same township. J. W. Ackerman and others are shut down at 1,531 feet on the Mary McElhaney farm, Section 15, same township.

In Sandusky County, Rice Township, near Fremont, the test of W. G. Montgomery and others on the Frank E. Miller farm, Section 31, is reported with an initial of 25 bbls. and should bring about some drilling activity in that section. Same parties are drilling on the Noah Hetrick farm, Section 30, same township. In Washington Township, M. Wagner and others are drilling on the M. Wagner farm, Section 36. In Scott Township, Joseph Fritz and others abandoned No. 11 on the Leter Bowe farm, Section 18, and North Lima Oil Co. abandoned No. 2 on the Henry Hughes farm, Section 22, same township. In Jackson Township, same county, Onsel Brothers and others abandoned Nos. 1 and 11 on the E. E. Harrison farm, Section 4.

In Lucas County the Ohio Oil Co. abandoned No. 20 on the Gertrude J. Niles farm, Section 29, Oregon Township.

In Wood County, F. L. McMahon abandoned No. 1 on the John Minning farm, Section 23, Troy Township.

In Wyandot County, Crane Township, Gimbill, Barton and Kuens are drilling on the Ward W. Walton farm, Section 21. Newcomer and others are shut down at 1,150 feet on the Albert Reber farm, Section 24, Pitt Township, same county.

In Lucas County, Monclova Township, west of Toledo, Ross & George are shut down at 490 feet on the Solomon C. Betts farm, Section 8, and E. J. Davies and others are shut down at 525 feet on the Charles B. Holloway farm, Section 7, same township.

In Allen County, Ohio Oil Co.'s No. 8 on the G. W. Tabler farm, Section 9, Perry Township, is reported good for 5 bbls. Jones Oil Co. is drilling on the Valentine Scherer farm, Section 35, Spencer Township, same county.

CENTRAL OHIO

Eleven completions were reported from the Central Ohio Field, of which two were oil wells, with an initial of 13 bbls., six gas wells and three dry holes. Activity still prevails in all parts of the field, and as fas as wells are completed new holes are started over a wide area.

In Ashland County, Hulse and others' test on the Howard E. Young farm, Section 15, Lake Township, proved a dry hole in the Berea sand from 542-560 feet. Same parties have a rig on the E. A. Cable farm, same section. Metzler and others' No. 6 on the Clark Alber and others farm, in Section 34, Mohican Township, same county, has a showing of oil in the Berea sand from 761-91 feet, but the value has not yet been reported.

In Medina County, Chatham Township, Curtis & Eaken's No. 9 on the Thomas Brown, Jr., farm, Lot 22, is reported a dry hole at 400 feet.

In Coshocton County, Perry Township, the Preston Oil Co.'s No. 2-1,517 on the F. H. Donaker farm, Section 1, is reported good for 10 bbls, while Murphy and others' test on the Ward Little farm, same section, is a fair gas well, at a depth of 2,996 feet. W. E. Stephenson's No. 3 on the Henry Noland farm, Section 12, Pike Township, same county, is reported drilling at 3,015 feet. Hulse & Kuntz are drilling around 2,900 feet on the Rolla McKee farm, Section 17, Perry Township, same county.

In Licking County, the Wehrle Gas Co.'s test on the Milton Parr farm, Section 11, Franklin Township, is reported dry from 3,099-3,147 feet. McClay Brothers' No. 4 on the E. and A. Hoover farm, Section 3, Perry Township, is reported a 3-bbl. producer at 2,865 feet.

In Muskingum County, Brush Creek Township, the Pure Oil Co.'s No. 3 on the Scott-Hammon farm, Section 3, is showing for a light gas well at 1,165 feet.

In Stark County the Brendal Producing Co. brought in a good gas well in No. 9 on the Charles Yearkey farm, Section 21, Jackson Township, in the Clinton lime from 4,260-92 feet. East Ohio Gas Co. is drilling Nos. 2 and 3 on the Edward A. Frank farm, Section 14, same township, and No. 4 on the John Strouble farm, Section 33, same township. Sisler and others' No. 4 on the Eva M. Sisler farm, is a nice gas well in the Clinton from 4,379 feet to 4,407 feet, and made a location for No. 5 on the same farm, in Section 22, Jackson Township. Barnhart and others staked a location for No. 1 on the J. Montgomery farm, Section 25, same township. In Plain Township, same county, Nichter and others drilled in a gas well on the H. Schriner farm, Section 18, in the Clinton lime from 4,529-60 feet. White and others are starting No. 1 on the Disposal Plant, in Section 7, Plain Township, and McClay Brothers are drilling on the E. and M. Luthi, Section 23, Lawrence Township.

In Belmont County, Union Township, the O. K. Oil & Gas Co. drilled a fair gas well on the J. T. Murphy farm, Section 29, the gas being found in the Maxon sand from 920-1,000 feet. Bradfield and others are drilling No. 2 on the John Shutway farm, Section 35, same township. W. G. Fulton and others are drilling No. 5 on the N. E. Slevin farm, Section 27, Somerset Township.

In Guernsey County, Adams Township, McLaughlin and others are drilling on the William H. Dyke farm, Section 9.

(Continued on Next Page)

Eastern Curtailment Is Continued in December; Coshocton County Has 50 Barrel Well

By STAFF CORRESPONDENT

PITTSBURGH, Pa., Nov. 28.—South Penn Oil Co., in a notice dated November 26, advises all producers of Pennsylvania Grade crude connected to the lines of Buckeye Pipe Line Co. in Southeast Ohio, the Eureka Pipe Line Co. in West Virginia, and South West Pennsylvania Pipe Lines in Southwest Pennsylvania, and with whom it has standing orders for the transfer of all such crude as run that its outlet for this grade of oil for the month of December will be the same as for the month of November. The notice then states: "Therefore, we must again ask all our customers to continue their curtailment of production throughout December in keeping with the curtailment asked for the month of November."

That curtailment will again be 30 per cent of the November, 1931, runs, and the notice further states that failure to comply with this announcement will compel the cancellation of the standing orders for the transfer of the crude to the account of South Penn Oil Co. as it is run.

In the Bradford and Allegany districts of the eastern fields, both South Penn Oil Co. and Tide Water Pipe Co. have issued notices that the present curtailment will have to stand for the month of December. That is at 75 per cent of the base amount of their crude contracts with producers, which rate has been in effect since September 1.

SOUTHEAST OHIO

The Murphy Petroleum Co. and others have a producer estimated as 50 bbls. in their No. 1 on the Ward A. Little 40-acre farm in Section 17, Perry Township, Coshocton County. This operation was drilled to the Clinton formation and a depth of 3,055 feet. It has not been shot but on the basis of a production of 10 bbls. initially and natural, it is estimated it will produce from 40 to 50 bbls. a day after shot.

Co-operative Oil Co. is drilling a second well on its own property in Knox Township of Vinton County, and in Section 9 of Liberty Township, Washington County, C. A. Frantz and others are drilling a second test on the J. W. Taylor farm. In Newport Township of the same county, C. S. Benedict and others are drilling No. 6 well on the John W. Lendenhall farm. A rig is standing on the William Templeton farm in Fearing Township, Washington County, by H. Robinson Brothers.

WEST VIRGINIA

One 2-bbl. producer, two gassers, one of which is good for 2,000,000 feet, and four dry holes were completed in the West Virginia division.

The test of Swanson and Isaac on the H. R. Wiley China Co. property in Guyandotte district of Cabell County was completed after drilling ceased at a depth of 2,966 feet. From this depth, this well is rated at better than a 2,000,000-foot gasser.

The other gasser completed in this division during the week is a small well and the property of R. H. Adkins and others. It is a second test on the Golza Bragg farm in Union district, Lincoln County.

Riley Yeater's second test on the W. W. Spencer farm in Grant district, Doddridge County, came in as a 2-bbl. producer natural from the Big Injun formation and a depth of 2,030 feet. The Pittsburgh Coal was found at 563 feet in this well, and the Squaw sand was encountered at 1,899 feet. A show of gas was had between 2,010 and 2,014 feet, and there was a show of oil from 2,014 and 2,020 feet.

Grover Whitecotton plugged and abandoned his test operation on the Cecil Jackson farm in Clay district, Wirt County, after drilling to 160 feet.

Creed Barker and others found the formation to a depth of 1,826 feet and the Injun sand dry on the Hugh Johnson heirs farm in Sherman district, Calhoun County, and in Sheridan district of the same county. A. Rothwell and others had a similar experience in their test on the Annie Amos farm. This well was also drilled to the Injun formation.

In Ritchie County, R. C. Jackson and others' test on the Rutherford heirs farm in Grant district and on the waters of Devil Hole Creek was dry in the Injun sand.

Clem S. Morris is testing at a depth of 1,676 feet on the Charles Drake farm in Murphy district, Ritchie County, and Marshall and Price are testing their No. 8 on the Goshorn and others tract in Elk district of Kanawha County after drilling to a depth of 660 feet.

Drilling in West Virginia

Cambridge Gas Co. has its No. 4 well on the C. C. Lewis heirs' farm in Scott district, Boone County, drilling at the 900-foot level. In Malden district, Kanawha County, Owens Bottle Co. has a rig standing and part of the tools on the ground for No. 10 on the C. Q. Crockett farm.

In the process of drilling the old No. 3 on the J. L. Dickinson farm, formerly Grant Copenhaver, Grosscup and others have reached 3,830 feet. This well, formerly the property of Coopers Creek Oil & Gas Co., is in Elk district, Kanawha County. A depth of 4,850 feet has been reached in the test of Ellyson and Wilson on the Virgil C. Tate farm in the same county, but Union district.

Shimwell Oil & Gas Co. is fishing for the bit in its test on the W. J. Price farm in Grant district, Wetzel County. Total depth of this well is now 3,053 feet. Pittsburgh Coal was found at 962 feet. In Church district, State Line Oil & Gas Co. is drilling at 2,560 feet on the C. W. Kirkhart farm, and the 2,000-foot level has been reached in the process of drilling the test of Earl Hennen and others on the Joseph Stender farm in Magnolia district.

In Wirt County, Donald Nutter is shut down at 990 feet in his test on the William Hull farm in Clay district. Heck Oil Co. remains shut down at 400 feet in its No. 3 on the J. E. and J. G. Watkins property in Reedy district.

The Samuel Van Gundy test of Bulger

Gas Co. in Jefferson district, Lincoln County, is drilling at 1,100 feet. Woodall Gas Co. has its No. 4 on the James R. Adkins farm in Union district, same county, down 1,850 feet. A depth of 1,100 feet has been reached in No. 3 of Harvard Gas Co. on the Standard Fuel Gas Co. tract in Washington district.

In Cabell County, the test Phillip Hager and others are drilling on the Marshall College lot in Guyandotte district is down 2,760 feet, and in the same district, C. C. Wolfe and others are drilling at 1,600 feet on the Calhoun and Justice tract. Huntington Brick Plant's test on its own lot in the same district is now at 2,250 feet. A depth of 2,050 feet has been reached in the test of R. H. Adkins and others on the M. and A. Williams tract in McComas district.

Roberts and Jarrett are down for fuel at 400 feet in their test on the Hubert Ferrell farm in Chapmansville district, Logan County, and in the same district, Cumberland Petroleum Co. is drilling at 425 feet in its No. 8 on the Merrill Coal Co. tract.

In Wayne County, Southern West Virginia Gas Co. remains down for water at 1,450 feet on the A. W. Preston farm in Union district, and Burgess Oil & Gas Co. is drilling at 400 feet on the Robert Vaughn farm.

Virginia Oil & Gas Co. has constructed a rig for a well on the Ed Reynolds farm in DeKalb district, Gilmer County. H. H. Shepard and others are fishing for their tools in their test on the T. C. Burdette farm in Washington district, Jackson County, and at a depth of 670 feet.

No. 6 well of C. W. McCall and others on the Fletcher Stout farm in Center district, Gilmer County, is drilling at 1,750 feet. Rock Run Oil Co. is fishing for tools at 1,800 feet on the J. H. Leep farm in Clay district, Wirt County, and in Murphy district of Ritchie County, Reno Oil Co. is drilling at 260 feet in a second test on the Michael Kinney heirs property.

SOUTHWEST PENNSYLVANIA

Two oil producers, with an initial production of 32 bbls. were the only wells completed in the Southwest Pennsylvania division.

E. H. and J. B. Tague completed a second test on the James Moore farm in Franklin Township, Washington County. This is a 30-bbl. well from the Dunkard formation and a depth of 865 feet. This well is across the creek from No. 1, which was completed late in October as a 2-bbl. well from the same formation and a depth of 881 feet. This is the fourth well the Tague interests have completed in this region. Their wells are located on an irregular strip of the Dunkard formation which appears very productive.

The Hundred Foot sand is producing an estimated 2 bbls. daily in a test well belonging to Henry Brooker, on the Harry Guyer farm in Ross Township, Butler County. The depth is 1,780 feet.

Drilling in Southwest Pennsylvania

E. H. Tague's second test on the William McKennan farm in South Franklin Township, Washington County, has reached a depth of 850 feet, and the Lawrence test on the McDowell heirs property in Buffalo Township is drilling at 370 feet. Reed & Co. has its test on the W. C. Arnold farm in Hanover Township at the 970-foot mark, and C. Ferguson & Co.'s test on the Pittsburgh Coal Co. tract in the same township has reached the 900-foot level.

A depth of 2,000 feet has been reached in the test of Reilley Oil Co. on the Reilley heirs property in South Franklin Township, Allegheny County, and in Adams Township the test of Goettman & Co. on the S. Grubbs farm stands at 1,263 feet.

Frank Hardt has his test on the John Norning farm in Ross Township, Butler County, down 1,600 feet, and Oliver Miller & Co. is at the 500-foot mark on the John Cable heirs property.

In Greene County, a depth of 3,000 feet has been reached in the second test of James H. Null and others on the Elizabeth Rice farm in Springhill Township. The second test of Johnson and Eddy on the Frank Roberts farm in Gilmore district is drilling at 500 feet.

Wildcat Reports

Benedum & Trees have reached the 3,500-foot level in their test on the Clinchfield Coal Co. tract in Russell County, Virginia, and their test on the I. Kaufman farm in Wise County is now down around the 2,800-foot mark. Brehn & Co. remain shut down at 2,400 feet for casing in their test operation on the J. M. Arnold farm in Washington County.

The test of Benedum & Trees on the Pocohontas Coal Co. tract in Big Creek district, McDowell County, West Virginia, is still shut down at 5,500 feet on account of engine trouble.

The test of the same operators and E. E. Grimm on the E. E. Knowlton farm in Section 10, Independence Township, Washington County, Ohio, likewise remains shut down at a depth of 5,755 feet. A new cable is being shipped in for deeper drilling in this well.

Central West Field

(Continued from Preceding Page)

In Carroll County, Collins, Linsell and others are shut down at 1,103 feet on the Thomas Leggett farm, Section 34, Orange Township.

INDIANA

No completions were reported from the Indiana Fields although there is a great amount of new work under way, especially in the southwestern portion, in Gibson, Pike, Sullivan, Vanderburg and Perry Counties. Hancock County has quite a drilling campaign, due to the shallow gas wells in Vernon Township, near the town of Fortville. Vigo County has three drilling wells, two of which are shut down. Dr. C. C. Talliaferro, Jr., is shut down at 2,460 feet on the R. T. Rynerson farm, Section 21, Prairie Township, and is drilling No. 1 on the Cyrus L. Lane farm, same township, while the Siosi Oil Corp. is shut down at 2,114 feet in No. 21 on the William Riggs farm, Section 32, same township.

ILLINOIS

Illinois had no completions during the week. In Clark County, J. E. Hood is drilling No. 8 on the No. 2 G. Briscoe farm, Section 32, Parker Township, and Martha Knierim is drilling No. 8 on the N. B. Lee farm, same section. Tilford & Morrow are still shut down on the W. B. Johnson farm, Section 36, Casey Township.

Walter Cline is still shut down on the A. D. Hidreth farm, Section 27, Lafayette Township, Coles County.

In Crawford County, Price & Weager are drilling on the H. Stanfield farm, Section 36, Prairie Township. W. C. McBride, Inc., is drilling No. 1 on the Raymond Oldham farm, Section 3, Montgomery Township. Warner Brothers are drilling on the Grant Jessup farm, Section 23, Honey Creek Township, while Jones and others have a rig on the C. A. Taylor farm, Section 2, same township.

Two drilling wells are idle in Centralia Township, Marion County: Bryant Lee Petroleum Co.'s No. 1 William Kangewich farm, Section 4, and Big Creek Oil Co.'s No. 1 on the E. J. McClelland farm, same section.

Voss and others are drilling on the M. Breiner farm, Section 27, Looking Glass Township, in Clinton County.

KENTUCKY

In the Owensboro Field of western Kentucky three counties had completions. If crude holds its price, the coming year will see a large amount of wildcat work, especially in counties that have not been given a worthwhile test for oil or gas. Indications are that Cumberland, Wayne, Monroe, Clinton, Russell and Metcalf Counties, along the southern border of the central area of the State and close to the Tennessee line, will see development work. The extreme northwestern part of Kentucky is also in line for development, as the Owensboro Field is being rapidly extended in that direction and may connect with the southwestern Indiana development.

In Ohio County, the Ohio Oil Co.'s No. 3 well, 600 feet from the south and west lines of the A. G. Pfister farm of 107½ acres, in the Maddox Pool, produced an initial of 20 bbls. C. E. Daugherty and others found a dry hole in No. 3 on the John Bickett farm, 2 miles northwest of Haynesville.

In Daviess County, Brenner & Adams' second test, 200 feet from the north line and 550 feet from the west line of the J. C. Alsip 50 acres, in the Cane Run Pool, produced an initial of 40 bbls. from a depth of 720 feet. H. G. Brenner and others' test, 50 feet from the south line and 800 feet from the east line of the Howard Wright farm, in the same pool, was dry at 800 feet.

In Hancock County, the Chester Oil Co.'s No. 3 on the Besse Fuqua, 130 acres, in the Richard Hill Pool, produced an initial of 15 bbls., and No. 4 on the same farm, produced 10 bbls. initial. Hupp. Duff and others are due in with their No. 7 on the Alex Jackson 103-acre farm, same pool.

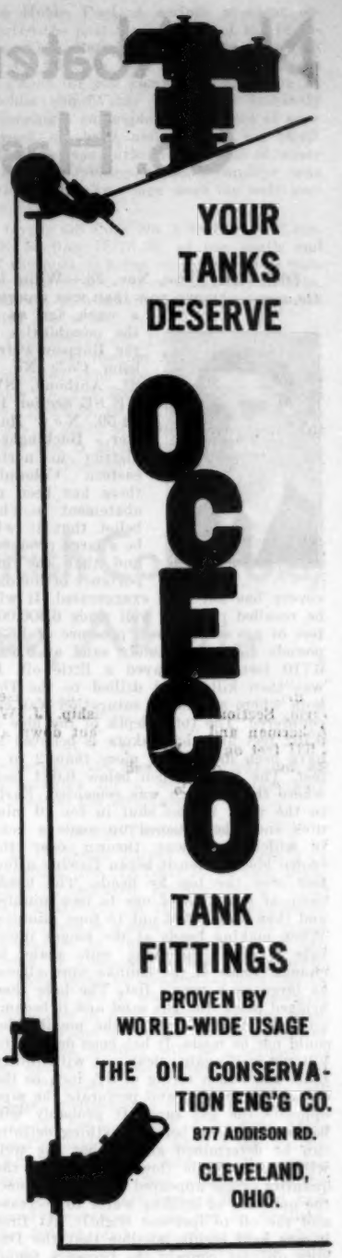
H. B. Simcox Is Appointed California Division Head

H. B. Simcox, formerly assistant manager of the production department of the Continental Oil Co., has been made manager of the company's California production division, with headquarters in Los Angeles. He succeeds R. E. Collom, recently made assistant to President D. J. Moran.

Mr. Simcox, a veteran oil producer, was born near the site of America's first oil well in Venango County, Pennsylvania. He worked in the old Bullion oil fields as a boy and while attending Grove City College. Following his employment in the Pennsylvania fields, Mr. Simcox migrated to Texas and was present when Spindletop, outstanding among the "booms" of oil history, was at its peak in 1903. He was successively employed by the J. M. Guffy Petroleum Co., Gulf Co., The Texas Company and Continental Oil Co. Mr. Simcox joined the Continental in 1916, and at the time of the Continental-Marland merger was manager of the production department.

GEOLOGISTS KILLED IN CRASH

WHARTON, Tex., Nov. 26.—An airplane crash here took the lives of two geologists, E. C. Templeton, of Los Angeles, Calif., and W. G. Gallagher, of Beeville, Tex. C. F. Liensch, of Los Angeles, head of the aviation department of the Union Oil Co. of California, was injured. Mr. Liensch and the two victims were members of a party which had been engaged in geophysical research in this section for the company. The plane, attempting to land in the dark, crashed into a tree.



C. M. HEETER, SONS & CO., INC.
MAIN OFFICE AND WORKS, BUTLER, PA.

"Heeter's" Packers and Swabs

Heeter's Improved Patent Swabs, Corrugated Friction Sockets, Wire Line Pumping Outfits, Sand Pumps and other Gas and Oil Well Materials

EXECUTIVES! Make Money on *Advance* **Confidential** Information

ROTHSCHILD'S FORTUNE ORIGINATED IN GETTING INFORMATION direct from the battlefield of Waterloo ahead of competitors. . . . Getting actual facts quickly has always given big men the advantage. . . . Oil executives can **NOW** get an authoritative weekly analysis **direct from the source** in mimeographed bulletin form, compiled by H. J. Struth, national authority on oil economics. . . . Covers all branches of the oil industry and its financial aspects. . . . **START GETTING FACTS NOW** without obligation, on an introductory offer saving you $15 on this confidential service. . . . **WRITE TODAY for FREE SAMPLE OF SERVICE.**

PETROLEUM ECONOMIC SERVICE
SECOND NATIONAL BANK BUILDING : : : : : : HOUSTON, TEXAS

No Abatement in Belief That Ramsey Petroleum Co. Has Made an Important Oil Discovery

By TOLBERT R. INGRAM
Staff Correspondent, Rocky Mountain Area

DENVER, Colo., Nov. 28.—While little more is known now than was reported a week ago as to the possibilities of the Ramsey Petroleum Co.'s No. 1 St. Anthony, SW NE SE Section 15-7n-59, New Raymer - Buckingham district in northeastern Colorado, there has been no abatement in the belief that it will be a large producer and that the importance of the discovery has not been exaggerated. It will be recalled that the well made 6,300,000 feet of gas with a rock pressure of 1,635 pounds from the Muddy sand at 6,686-6,710 feet and sprayed a little oil. It was then killed and drilled to the Dakota where additional saturation was encountered. The total depth of the hole is 6,762 feet and the Dakota is believed to have been drilled not more than 2 to 4 feet. The hole is open below 6,684 feet, where the 6⅝-inch was cemented. Early in the week it was shut in for 10 minutes and when opened up made a head in which fluid was thrown over the crown block. Then it began flowing a few feet over the top by heads. The heads came at intervals of one to two minutes and then lengthened out to four minutes. When making heads at the longer intervals it began throwing out shale in chunks. Some of the chunks were almost as large as a man's fist. The hole then bridged below the gas sand and it became apparent that a test of the possibilities could not be made. It has been decided to kill the well again, clean out with rotary tools and run a string of 5⅞-inch to the top of the Dakota and perforate the pipe opposite the gas sand. It probably will be another week before anything definite can be determined as to what the well will make. While flowing by heads the quantity of gas appeared to increase some, the quantity of drilling water to decrease and the oil to increase slightly. At first it was held highly possible that the Dakota did not contain the pressure found in the Muddy, but the appearance of the chunks of shale, which come from below the gas sand appears to indicate otherwise. This is the first good show of oil in the Dakota, indicating a prolific sand, found in northeastern Colorado. As this sand is more than 100 feet thick, and known to be 193 feet thick in at least one location, and has been drilled only a few feet in the Ramsey well, its possibilities are considered very promising. The oil is a paraffin base crude, of about 40 degrees gravity and yellowish-green in color.

There were no completions in the Hobbs Pool and only one new location. The Continental Oil Co. is starting a well in the Jal Pool, the first to be drilled in the past year. The Malco Refineries, Inc., posted a price of 55 cents for Artesia crude.

In Colorado, the Ramsey Petroleum Co.'s well in Weld County, after flowing by heads from the Dakota sand, bridged below the gas sand and will be killed for the second time to clean out and run pipe. The Ohio Oil Co.'s No. 1 Butters, in the Greasewood Pool, is a completion, rated at 30 bbls. per day.

In Wyoming, the Mutual Oil Syndicate's No. 2 on the Midway Dome is a completion and flowed 108 bbls. from the Muddy sand the first 24 hours. Same interests completed another gas well in Carbon County.

In Montana the Ohio Oil Co.'s No. 7 Robinson, in Carbon County, succeeded in shutting off Lakota water and will make a producer in the Dakota. There were no completions in the Cut Bank area. Two locations were reported.

A South Dakota wildcat in Fall River County is reported to have cut 15 feet of saturated sand in the Lakota and is preparing to test.

In Washington the Ohio Oil Co.'s Aberdeen test is still in basalt at 6,600 feet.

COLORADO

Weld County

While there is considerable leasing taking place and a number of deals have been made since the Ramsey Petroleum Co. brought in its No. 1 St. Anthony, few of these have as yet been released for publication. Prices are reported, however, not as large as prevailed two years ago when the discovery was made at Greasewood. This is due to conditions more than to any difference in importance. One deal definitely known was the acquisition of a one-fourth interest in the Tulsa-Fort Morgan Petroleum Co.'s block to the north of the Ramsey well by Arthur Bosworth, a member of a large Denver bond house, S. C. Munoz, who developed the Rattlesnake Dome in New Mexico, and their associates. This well, No. 1 Anthes, C NE NE Section 24-8n-59, 5 miles to the north of the Ramsey well, is bottomed at 3,318 feet. A contract for rotary equipment is being negotiated and the well will be carried on down as soon as possible. Another deal is being negotiated which gives promise of a test this fall between the Tulsa-Fort Morgan and Ramsey wells. As a rule, however, it is not believed that much drilling will be inaugurated before spring.

The Ohio Oil Co.'s No. 1 Butters, C SW SW Section 7-6n-60, a mile to the northeast of the Greasewood producers, was reported a completion this week and is making an average of 30 bbls. per day by swabbing from the Muddy sand at 6,685-90 feet. It went to the Dakota at 6,756-90 feet, where it encountered water, and was plugged back. Manning & Terry's No. 1 Niles, C SE NE Section 13-6n-61, half a mile to the east of a producer in the Greasewood Pool, and between that pool and the Ohio well, is shut down at 6,721 feet with water in the hole from the Muddy. The Platte Valley Petroleum Co.'s No. 1 Wilson, C NE SE Section 24-6n-61, is drilling at 590 feet with cable tools.

Elbert County

J. M. Botts and others' No. 1 Union Pacific-Richardson, C NW SE Section 7-8s-58, Buick district, is shut down at a reported depth of 4,200 feet. No information is being given out by the drillers.

Adams County

The Hills Dome Lease Development's No. 1 Hills, SE cor. Section 27-3s-64, Watkins district, is shut down at 4,119 feet.

Jefferson County

The Ruby Hill Oil & Gas Co.'s No. 1 Braden, SE cor. Section 24-4s-69, near Denver, has erected new rig to take the place of one moved away some time ago by contractor, and is waiting for string of 4¾-inch being moved in from Tow Creek. Total depth is 4,280 feet.

Arapahoe County

The MacDeb Drilling Co.'s No. 1 Fitzsimmons, NE Section 7-4s-66, near Aurora, is bottomed at 6,110 feet and fishing for parted 4½-inch, of which 3,200 feet was in the hole. Most of it has been recovered and the last is 50 feet up inside the 6¼-inch and coming out slowly.

Larimer County

Richard Branstad and others' No. 1 Branstad, C S half SE Section 11-11n-69, Round Butte, is rigged and ready to spud with small rotary.

El Paso County

Colorado Springs Oil & Natural Gas Co.'s No. 2 Carson, NW NE NE Section 10-16-66, Fountain district, is shut down at 2,000 feet.

Routt County

The Texas Company's No. 1 Irwin-Carstarphen, NE SE NW Section 5-6n-86, Tow Creek, is drilling at 4,530 feet in shale. This is the greatest depth reached by any of the wells drilled in the north end of the Tow Creek Field in the vicinity of an igneous dike near which some good shale wells have been completed. All formations down to the red beds have been tested in the south end.

Moffat County

The Mountain Fuel Supply Co.'s No. 1 Wilson, NE SW NE Section 22-12n-100, the discovery well on the Hiawatha Dome, which recently showed some crude oil with the gas, was deepened to experiment and has cemented the 6⅝-inch at 2,232 feet.

Rio Blanco County

The California Co.'s No. 1 California-Raven, NW SE Section 30-2n-102, Rangely Dome, is shut down at 6,575 feet repairing Diesel engine. The Magnolia Petroleum Co.'s No. 1 Gladly Titley, NW cor. SW Section 15-2s-96, Piceance Creek, is still waiting for cement to set. The pipe was set on top of gas sand at 2,953 feet.

WYOMING

Natrona County

The Mutual Oil Syndicate's No. 2, C SW SE Section 14-35-79, Midway Dome, flowed an average of 4½ bbls. per hour through tubing from 31 feet of Muddy sand at a total depth of 6,075 feet on a 24-hour test. It is rated at 100 bbls. per day and is a completion. This is the second producer on the structure. Another test will be drilled to the southeast of these two wells.

Summitt Oil Co.'s No. 1 Trewitt, NW cor. Section 21-33-80, North Platte, is drilling at 1,780 feet. The Empire State Oil Co.'s test on the NE Section 12-33-83, Poison Spider, is drilling close to 400 feet.

Converse County

Ohio Oil Co.'s No. 25 Kinney, SE SW SE Section 4-33-76, Big Muddy, is still swabbing from the Lakota at a total depth of 4,326 feet and it is estimated that it will make 75 to 100 bbls. per day on the pump. Same company's No. 26 Kinney, same location, which was drilled to a stray sand at 1,500 feet, is shut down for orders at 2,110 feet. No production of value was encountered. The Continental Oil Co.'s No. 30 Glenrock Sheep, SW SE SE Section 4-33-76, is bottomed at 4,716 feet and fishing for bailer.

Carbon County

Mutual Oil Syndicate's No. 26-C, NW SE NE Section 1-18-78, Dutton Creek, was completed as a gas well in the Shannon sand at 1,860 feet with an initial production of 1,250,000 feet per day. This gives the syndicate a developed production of 4,000,000 feet per day from the four wells, including the bradenhead gas from the two oil producers. This well is north of the two oil wells and proves up sufficient territory to go ahead with the plans for piping natural gas to Laramie. The Laramie Gas Co., the local distributor, will spend $750,000 converting its system and installing new mains and building connections at the field and at Laramie with the old oil line of the Ohio Oil Co. from Rock River to Laramie.

Ohio Oil Co.'s No. 1 Carbon, NW cor. Section 18-18-77, is coring in the top of the Shannon sand at 1,950 feet and preparing to run pipe.

Crook County

The St. Onge Oil & Gas Co.'s No. 1, SW NE SE Section 20-53-61, Redwater district, is drilling in the Minnelusa formation at 775 feet.

Sweetwater County

Wyoming-California Petroleum Co.'s No. 1, SE SE Section 23-17-104, South Baxter Basin, is still fishing for bit at a total depth of 4,050 feet.

Sublet County

California Petroleum Corp.'s No. 8-L, SW cor. SE Section 34-27-113, La Barge, is coring at 1,005 feet.

Platte County

T. R. Oberman's No. 1 Diamond Ranch, NW SE Section 30-21-68, west of Chugwater, is drilling at 180 feet.

Niobrara County

The Interstate Oil & Refining Co.'s No. 1 Globe, SW cor. SE Section 2-39-61, West Mule Creek, is preparing to set the 10-inch at 1,900 feet.

Fremont County

The Texas Company's No. 2 State-Ridgway, SE SW SW Section 36-34-95, Alkali Butte, is bottomed at 4,263 feet with the 9-inch cemented on top of the Muddy, and is digging out cellar and installing clamps and gate valves and moving in 4-inch drill stem. The Muddy showed saturation when cored and will be tested before drilling deeper. The Ward Oil & Gas Co.'s No. 2, NE cor. Section 28-34-90, Dutton Basin, has recovered bit which stuck at 2,100 feet and is preparing to resume at 4,150 feet.

Hot Springs County

Empire State Oil Co.'s test in NE NW Section 14-44-98, Hamilton Dome, is drilling at 925 feet.

Park County

Henderson Producing Co.'s No. 10, SW NE NE Section 31-58-99, South Elk Basin, is preparing to underream pipe from 1,794 feet to lower and set on top of the second Frontier at 1,820 feet. The well gauged 6,500,000 feet of wet gas when drilled into the sand a few weeks ago. The well is the highest of those drilled in the south field and only 100 feet lower than the wells in the field proper.

Continental Oil Co.'s No. 1 Northern Pacific, SE SW NE Section 23-58-98, Frannie Dome, is rigging up cable tools.

Weston County

Julius Peters and others' No. 1 Witzel, SE cor. NW Section 30-46-64, southwest of the Osage Pool, has cleaned out to bottom at 4,590 feet and is ready to be put on production. No test has yet been made, but hole is almost full of oil. It opens a new pool.

There were no completions in the Osage Field. The Yellowstone Petroleum

Co.'s No. 3 McCullough, SW NW NE Section 23-46-64, is drilling at 1,700 feet, and the Lincoln Syndicate's No. 1, SW cor. SE Section 10-46-64, set the 8¼-inch and shut down. The Riggs Oil Co.'s No. 2 SE NE Section 16-46-64, cemented the 6¼-inch at 3,168 feet to shut off water, and the M.S.&W. Co.'s No. 13, SW SE NW Section 30-46-63, picked up the pay at 1,402 feet and is drilling in. The Chadron-Osage Oil Co.'s No. 18, NW SW SW Section 14-46-64, topped the pay at 2,035 feet and is drilling in.

MONTANA

Carbon County

Ohio Oil Co.'s No. 7 Robinson, C SE SE Section 3-7s-21, Dry Creek Dome, has succeeded in shutting off water in the Lakota sand and is perforating pipe opposite the Dakota, topped at 5,545 feet. The well looks as if it will make a fair producer. Its No. 11 Bowman, C SE NE Section 4-7s-21, is still having trouble shutting off Lakota water to produce from the Dakota. The Ohio's No. 9 Souders, C NE SW Section 2-7-21, set the 15½-inch at 257 feet and is waiting.

Carbon Oil & Gas Co.'s No. 1 McMinn, NW SW SW Section 7-7s-22, which cored 10 feet of saturated sand in the Dakota at 5,517-27 feet and shut down for pipe, is moving in string of 9⅝-inch.

Jack Creek Oil Co.'s No. 1-A, SW NE SE Section 15-7s-23, Jack Creek, is drilling at 1,335 feet, and the Corbett Royalty Co.'s No. 1, SW cor. SE Section 1-6s-23, Blue Creek, is drilling at 1,245 feet.

Glacier County

There were no completions in the Cut Bank area during the week. The Santa Rita Oil Co.'s No. 1 Yunck, NE NW NE Section 23-34-6w, swabbed 145 bbls. first 24 hours at a total depth of 2,910 feet. The Montana Power Co.'s No. 1 Simereo, C N half, Section 5-33-5w, which extended the pool 4 miles to the southeast, plugged back to 2,765 feet and swabbed 65 bbls. the first 24 hours and 106 bbls. the second period. R. C. Tarrant's No. 1 Reikhoff, SE SW NE Section 3-34-6w, the farthest northwest of any producer, is swabbing 90 bbls. with tubing still off the bottom.

Two new locations are W. M. Fulton and others' No. 1 Blackfeet, NE cor. Section 16-34-6w, and the Alberta-Pacific Oil Co.'s No. 1 Keisel, Section 11-34-6w, which is moving in.

Two wells are nearing completion. These are the Santa Rita Oil Co.'s No. 2 Yunck, NE cor. SE Section 24-34-6w, which is running pipe at 2,773 feet, and R. C. Tarrant's No. 1 Haglund, Jr., NW SW NW Section 13-34-6w, which is drilling at 2,465 feet. Tarrant's No. 1 McLellan, C SE Section 7-34-5w, is drilling at 700 feet, and his No. 1 Britton, NE cor. SE Section 14-34-6w, is drilling at 2,000 feet. Tarrant's No. 1 Longmiller, NE cor. Section 24-34-6w, is drilling at 500 feet. Alberta-Pacific Oil Co.'s No. 1 Matson, NE SE NW Section 14-34-6w, cemented pipe at 540 feet, and the Hannah-Porter Co.'s No. 1 Britton, SW cor. Section 14-34-6w, is drilling at 350 feet. B. E. Adams and others' No. 1 Britton, SE cor. NE Section 14-34-6w, is drilling at 2,260 feet. The Texas Company's No. 1 Fisher, C S half SW Section 10-35-5w, in the gas district, is bottomed at 2,546 feet and rigging up to run the 6⅝-inch. At this depth it encountered considerable gas which burned the derrick.

Yellowstone County

Rice, Fulton and others' No. 1, C W half, SE Section 30-2n-23, Molt district, is spudding at 100 feet in a 20-inch hole. This is a cable tool test to the Lakota on a block of 17,000 acres. Peter Antonilli's No. 1, NW cor. NE Section 21-2n-25, Happy Hollow, is drilling at 2,514 feet.

Gallatin County

Montana Gas & Petroleum Co.'s No. 1 Adams, SE cor. Section 35-2n-1e, Three Forks, is drilling at 1,730 feet.

Toole County

In the Kevin-Sunburst Field, Myers & Johnson's No. 1 Rogers, SW SE NE Section 19-34-1w, is shut down at 1,440 feet for engine repairs. The Missoula-Kevin Oil Co.'s No. 1 Davidson, SE cor. NE Section 28-35-3w, is shut down for casing at 1,365 feet. The Bi-State Oil Co.'s No. 2 Heanel, SW cor. Section 2-34-1w, is reaming to bottom at 1,285 feet. Raymond and others' No. 2 De Groat, SW Section 10-35-2w, is drilling at 1,400 feet, headed for the Ellis. It cut the Sunburst sand at 1,265-86 feet. Eagle Oil Syndicate's No. 1 Haugen, NW NW Section 12-35-3w, plugged back to the Ellis at 1,852 feet and the Sunburst at 1,605-30 feet to test.

In the Border Field, the Askalta Oil Co.'s No. 8 Farbo, NE NW NE Section 2-37-4w, is drilling below 2,480 feet.

SOUTH DAKOTA

Chadron-Osage Oil Co.'s No. 1 Moody, NE cor. SW Section 6-12s-6e, Fall River County, found the Lakota at 2,835-50 feet saturated with oil and will set and cement casing to shut off water from above and make a test. The Tri-State Oil & Refining Co.'s No. 1 Jamieson, SW SE SE Section 35-9n-3e, Butte County, is drilling at 405 feet.

WASHINGTON

Ohio Oil Co.'s No. 1-A Robinson, Section 5-17n-9w, Gray's Harbor County, is coring at 6,600 feet in basalt.

NEW MEXICO

Lea County

Two new locations were reported in Lea County, one in the Hobbs Pool by the Tidal Oil Co. and the other in the Jal area by the Continental Oil Co. The Tidal location, which is tentative and may be moved, is its No. 4 Hardin, 1,300 feet from the north line and 1,300 feet from the east line, Section 19-18s-38e. It is in the north end of the pool. The Continental's location is its No. 1-B Sholes-13, C SW NW Section 13-25-36, a diagonal offset on the northeast to the Empire Gas & Fuel Co.'s No. 2 Lindley. This is the first operation started in the Jal area for more than a year.

There were no completions reported in the Hobbs Pool. A serious accident occurred the past week at one of the Humble Oil & Refining Co.'s wells in which S. C. Kincade, 30, assistant petroleum engineer for the company's pipe line at Hobbs and Wink, was killed instantly following a gas explosion. A piece of pipe struck his head and crushed his skull. His body was hurled into a pool of waste oil. U. F. Jackson, another employe, was injured. The two men were the only persons at the well.

Gypsy Oil Co.'s No. 1 Hardin, SW cor. SE Section 18-18-38, at the north end of the pool, is being completed. It is testing at a total depth of 4,221 feet in lime. The 6⅝-inch was cemented at 4,024 feet with 250 sacks.

Continental Oil Co.'s No. 7-B State, C SW NE Section 33-18-38, has cellar completed. The Humble Oil & Refining Co.'s No. 2-B Bowers, SW NW SE Section 20-18-38, twisted off bit and is fishing at a depth of 140 feet. The Getty Oil Co.'s No. 5 McKinley, NE cor. Section

(Continued on Page 61)

New Development Planned in British Columbia; New Test in Two Hills Structure, Alberta

By VICTOR LAURISTON
Staff Correspondent, Canadian Fields

CHATHAM, Ontario, Nov. 26. — Important new development work will be undertaken in southeastern British Columbia as a result of a deal recently concluded between the Columbia Oil Co. of Vancouver and Crow's Nest-Glacier Oil Co. As a result of this deal, Columbia Oil Co. will take over and further test the Crow's Nest-Glacier acreage in Sage Creek area.

Crow's Nest-Glacier Oil Co.'s No. 1 in the Sage Creek Field was drilled a few years ago to a depth of 3,260 feet, when good shows of oil and gas were reported. The oil was a high-grade light crude. The well was shot in an effort to increase the flow, when the hole was blocked by caving and the tools lost in an effort to clean out.

Early this year Crow's Nest-Glacier Oil Co. resumed work with a diamond drill outfit. The hole was cleaned out and the lost tools sidetracked. The redrilling operations were carried to the original depth of 3,260 feet, oil and gas again being encountered. At this stage the 3-inch casing parted deep in the hole and a string of tools was lost.

The Columbia Oil Co. has its office at Vancouver, British Columbia, and is headed by O. C. Thompson, general manager of the Reno Gold Mines of Salmon, British Columbia. Mr. Thompson was one of the early oil operators in the Turner Valley Field in Alberta. It is understood the new company will take over all the Crow's Nest-Glacier acreage in exchange for a 25 per cent royalty on production. An $80,000 rotary outfit has been purchased in Vancouver and will be moved into the field as soon as the ground freezes sufficiently for caterpillar tractors and heavy trucks to operate. The company is planning to operate three eight-hour shifts a day until its first test is completed.

It is expected that before new drilling is started, about March 1, the new company will give Crow's Nest-Glacier's No. 1 a shot in the hope of loosening the tight oil at 3,260 feet and developing commercial production. The hole has already been cleaned out, tools recovered and casing reset in preparation for the shot. If the shot fails to develop commercial production the well will be abandoned and a new test started. The Columbia company's program involves the drilling of a series of five tests in the North Fork area adjacent to Crow's Nest-Glacier's No. 1, though the definite locations will depend on the results secured from time to time.

The area was reported on some time ago by Victor Dulmage, geologist, of Vancouver; and last summer a geological survey party headed by Dr. G. S. Hume examined the Sage Creek Field and the adjacent area in southwestern Alberta, where promising oil indications were discovered many years ago.

Two Hills Test

Another important new test has been spudded in on the Two Hills structure in central Alberta, east of Edmonton, where Frontier Development Co.'s No. 1, LSD 2, Section 1-55-13w4, is reported setting casing to shut off surface water around 250 feet. Sheldon Burden Co. of Canada has the contract, rotary equipment being used and cores taken all the way down ahead of the drill. The test should be completed about the end of December, as the potential horizons should be reached within 1,800 or 2,000 feet of drilling. The location is approximately 10 miles south of Alberta Pacific Consolidated Oils' No. 1 Duvernay, drilled in 1930 and in which the Frontier Development Co. had an interest. The Frontier company is an operating subsidiary of the Canadian Exploration Co. of Denver.

Frontier's No. 1 is stated to be located on acreage of Anglo-Western Petroleums, Ltd., which retains a royalty interest, and preliminary work included some 21 structure tests. The Anglo-Western company has extensive oil holdings in north-central Alberta. The holdings, amounting to 486,000 acres of freehold, are checkerboarded over an area extending west from the Saskatchewan boundary a distance of 175 miles and reaching 60 miles north and south. These holdings were secured from the British Dominion Land & Settlement Co., which in the early days obtained a concession from the federal government. Anglo-Western Petroleums, Ltd., was financed largely by British capital, its office being at Calgary.

Alberta Pacific's No. 1 Duvernay, LSD 5, Section 34-55-12w4, was abandoned at 2,417 feet after getting the top of the Paleozoic lime at 2,070 feet. Numerous oil and gas shows were encountered, and though the well failed to get commercial production, the results were regarded as encouraging for a well more favorably located on the structure.

South Turner Valley

In the South Turner Valley, Associated Royalties' No. 1, LSD 9, Section 5-19-2w5, is reported drilling below 3,135 feet, apparently in the McDougall-Segur sand. There is a possibility of light crude production in this horizon, or in the Home or Dalhousie sands lower down, the well being on the section adjacent to Hylo Oils' No. 1, which got a commercial production of light crude above the lime. If production is not met in the shallower formations, drilling will be continued to the wet gas-naphtha horizon of the Madison. Preparations have been made for drilling continuously through the winter.

In the far south end of the field, Mar-Jon-Freehold's No. 1, LSD 9, Section 28-18-2w5, has been held up by casing trouble at 5,469 feet after getting the lime about 40 feet higher. When it was found the casing could not be finished, the drillers made use of it as a whipstock, and are now sidetracking with rotary bit about 80 to 100 feet above the lime.

W. Fay Becker and associates of Calgary are preparing to start work on No. 2 Anaconda, LSD 15, Section 28-18-2w5, offsetting Merland Oil Co.'s No. 1 producer to the west. An arrangement has been made with Wellington Oil & Gas Co. of Calgary whereby the latter company is providing its heavy duty drilling outfit together with some financial assistance in return for a royalty interest in the new well. The Wellington outfit is being dismantled and moved south to the new site; and contract has also been let for the Anaconda derrick and camp buildings. Field work for the Becker syndicate is in charge of Mark Hovis. No. 2 Anaconda is expected to spud in some time in December.

Merland Oil Co., whose No. 1 in Section 27-18-2w5 is one of the best producers in the Turner Valley Field, has moved its office from Toronto to Calgary.

Central Turner Valley

In the Central Turner Valley, McLeod Oil Co.'s No. 4 deep test, LSD 16, Section 1-20-3w5, is reported drilling below 7,770 feet.

North Turner Valley

In the North Turner Valley, Model Oils' No. 2, LSD 16, Section 22-20-3w5, is redrilling below 3,760 feet. At this

the largest Atmospheric-Vacuum Still ever built.

GULF

MODERN METHODS

MAKE MODERN

GULF PRODUCTS

Paraffine and Coastal Crudes

Gasoline — Lubricating Oils

Naphtha — Gas — Oils

Wax — Petroleum Coke

Cylinder — Engine — Cordage

GULF REFINING COMPANY

General Sales Offices: Pittsburgh, Pa.

depth the test is within 200 feet of the old bottom.

Tests in the Foothills

In the southern foothills, Oil City Royalties' No. 1, Section 30-1-30w4, in the old Oil City Field, is reported drilling below 100 feet. The first oil show was met at 29 feet, and several shows since then. The drill got out of the pre-Cambrian overthrust into the lime at 41 feet. It is planned to continue drilling through the winter.

Farther north, on the Monarch structure, Cartier-Majestic's No. 1, LSD 3, Section 36-31-7w5, is reported drilling out cement at about 1,140 feet. The camp has been put in shape for winter drilling, including the installation of additional boilers providing what is practically an auxiliary plant. Work has been held up by a series of accidents, including one in which Omar Kay, drilling superintendent, had a bad fracture of the leg, due to a pulley flying off its shaft. After an ambulance upset en route Kay was treated at the Calgary hospital where he is now recovering. Ivan Hogge has been placed in charge of the drilling.

New Shallow Test

In the Central Turner Valley, it is reported that New McDougall-Segur Oil Co. is planning to drill its No. 6 test in LSD 14, Section 12-20-3w5, with the light crude horizon of the McDougall-Segur sand as an objective. New McDougall-Segur's No. 5 some weeks ago got a satisfactory light crude production, around 60 bbls. a day, in this horizon at 2,880 feet.

Red Coulee Field

In the Montana end of the Red Coulee Field, Askalta Oils' No. 8 Farbo, NE NW NE Section 2-37-4w, is reported drilling in below 2,480 feet. The well offsets the Vanalta group on the Canadian side of the boundary and is expected to be a fair producer.

Keho Lake Test

Northwest of Lethbridge, Hudson's Bay Oil & Gas Co.'s No. 1 Keho, LSD 2, Section 17-11-22w4, failed to get commercial production in the top of the Madison limestone. It got the lime at around 4,917-20 feet with small shows of oil and gas at the latter depth, while water was encountered below this to 4,942 feet. The well was plugged back to 4,926 feet and given a small shot, which failed to increase the oil production materially. At last reports the 6⅝-inch casing was being pulled to permit shooting of the oil show encountered in the Benton shale horizon at approximately 3,776 feet. At the time this stray sand was reported to indicate a small commercial production, around 50 bbls. of 32.6 gravity crude, but drilling was continued for a test of the Madison.

Northern Alberta Test

In the Athabaska district, northern Alberta, Athadome Oils' No. 2, LSD 3, Section 15-66-23w4, is reported down 650 feet with casing cemented, awaiting government O.K. before drilling deeper. It is planned to carry the 12½-inch casing to about 1,250 feet. Operations are being carried on under severe weather conditions, with a temperature around 20 below zero.

Twin River Well

On the Twin River structure, southeast of Lethbridge, Nordon Corp. and C. A. Roney's No. 2 Twin River, LSD 11, Section 2-2-20w4, is reported drilling. Operations have been held up, first by soft roads, and then by drifted snow. The location is less than a mile north of Parco Oil Co.'s No. 1 Twin River, and the well will make a further test of the horizon in the top of the Madison which has already given noncommercial oil and gas shows in a number of wells in this section of Alberta. No. 1 Twin River is flowing by heads about 2 bbls. a day. Tests by geophysical apparatus indicated No. 1 was located in a local syncline on the structure, and No. 2 has been located at a point where the oil horizon seems to be about 150 feet higher structurally than in No. 1.

The location is about 7 miles north of the northern limit of the Blackfeet Indian Reservation in Montana. The Reservation is north of the new Cut Bank Field, the Tarrant-Reickoff No. 1 in the extreme northwest corner of the field being on the reservation. This is the only well on the reservation that has been drilled to the normal producing horizons, and it is reported making a fair production.

Cut Bank Field

On the Montana side, some new development is being undertaken. It is reported that the Frye interests of Seattle, who recently completed a 4,400-foot test on the Milk River anticline, have spotted a test on the Higgins dome, 9 miles west of the Cut Bank Field.

In the latter field, Santa Rita Oil Co.'s No. 1 Yunck is reported to have swabbed 248 bbls. in 24 hours. Roy Tarrant's No. 1 Reickoff is reported swabbing 90 bbls. a day with the tubing still off the bottom. Dakota Montana Oil Co.'s No. 1 on the Drumheller property, SW SE NE Section 2-34-6w, offsetting to east, has been located. Alberta Pacific Consolidated's No. 1 Kiesel, Section 11-34-6w, is moving in. Alberta Pacific's No. 1 Matson, NE SE NW Section 14-34-6w, is drilling below 200 feet. Montana Power Co.'s No. 1 Simereo, N half Section 5-33-5w, which proved a 6-mile extension of the field swabbed 65 bbls., then 106 bbls. and is being plugged back to 2,765 feet from original depth of 2,792 feet. The same was between 2,749-54 feet. Nine other tests are reported drilling.

Manitoba Gas Test

In the Manitou district, southwestern Manitoba, Commonwealth Petroleums' No. 1 Pembina Valley, LSD 2, Section 26-2-9wPM, is reported drilling below 2,634 feet without commercial production. Recent samples show indications of what looks like granite, but they have not yet been definitely identified. The drill was working in the Ordovician formation, but the Winnipeg sand in this formation was expected to show production.

Turner Valley Conservation

The recent judgment of the appellate division of the Supreme Court of Alberta in connection with the appeal of Spooner Oils, Ltd., sustained the main features of the Turner Valley conservation measures on a variety of grounds. The appellate court held that the Turner Valley Gas Conservation Board was an administrative body and not a court; thus dismissing the claim that the members of the board were judges and their appointment infringed on the powers of the Dominion govement. The appellate court also held that the conservation act does not interfere with trade and commerce between the province and hence is within the powers of the Alberta legislature, and that it does not interfere with the natural resources agreement between the provincial and dominion governments.

The appellate court held, however, that the proposed levy on oil operators to defray the operating costs of the conservation board constituted indirect taxation, and hence was beyond the powers of the Alberta legislature. This levy, while embodied in the act, was never actually imposed; and it is understood the provincial government will accept the decision without appeal and will continue to defray the expense of the board out of the general funds of the province.

It is expected that the decision in so far as it sustains the conservation act will be further appealed by Spooner Oils, Ltd., though no definite decision has been announced by the company.

Labrador Opened to Prospectors

A remote possibility of new oil exploration is indicated by the announcement of the Newfoundland government that prospecting restrictions in Labrador, which have been in force since November, 1929, have been withdrawn. The Newfounded government will consider applications for prospecting rights over exclusive areas, which will be licensed at

a yearly fee of $1,000 for a 100-square mile section. The prospector must spend at least $5,000 annually in exploration or development. Discoveries made will be subject to application under the crown lands act and the fees payable under it; the territory being administered by the Crown Lands Department at St. John's, Newfoundland.

So far, discoveries in Labrador have been confined to the metallic minerals. The extensive area of Labrador is largely unknown and uninvestigated, and the fact that oil and gas have been found in both Gaspe and New Brunswick, farther to the south, as well as in Newfoundland, to the east, would indicate at least a possibility of oil deposits. So far, no oil investigations have ever been conducted in the Labrador territory.

Sarcee Co.'s Operations

Shareholders of the Highwood-Sarcee Oil Co. held their annual meeting recently at Calgary, when the following directors were re-elected: A. W. Dingman (president), Ivan Crooks, F. R. Webster, Eric Harvie, C. C. Anderson, H. H. Bradburn, Percy Tims, W. A. Ackland, R. G. Straker (secretary). Ivan Crooks was re-elected vice president. The company has extensive holdings in Alberta, and some seismographic survey work has recently been done on these. No immediate drilling is contemplated.

Drilling in Ontario

In the Ontario fields, F. H. Stover & Son's No. 1 Flook, E half N half Lot 19, Concession 8, Raleigh Township, Kent County, is reported drilling at 855 feet and will run 6⅝-inch casing in a few days.

In the Dawn Field, Lambton County, Union Gas Co. has finished cleaning out its three recently completed oil wells. Tankage is pretty well filled and owing to bad roads it is difficult to haul the crude, so that the wells cannot be placed on steady production. The three wells should make an aggregate of around 125 bbls. a day. It is possible no new work will be undertaken till spring.

In the Niagara-Haldimand area, Henry Patterson and associates of Dunnville are reported drilling for gas near Selkirk. Emerald Oil & Gas Syndicate of Toronto has finished its fifth producing well in the Cayuga Field in Haldimand County. These wells have got a fair gas production, between 75,000 and 250,000 feet a day, at shallow depth. A number of outfits are reported at work in the Haldimand and adjacent fields for small syndicates and local companies which mostly sell their production to the Southern Ontario Gas Co.

Drilling in Essex

In Pelee Island, Essex County, Pelee Oil & Gas Co.'s No. 1 Theo Rinkel farm was recently completed. The test got fair shows of oil and gas in the lime and on deepening, to a final depth of about 720 feet, encountered salt water, which filled the hole. The gas flow burned about 10 feet, and has been estimated between 50,000 and 75,000 feet a day, but it was too close to the water to be utilized. The oil and gas were encountered in the same horizon which showed production in the earlier Pelee Island drilling, between 25 and 30 years ago, but results of the test indicate it should have been drilled farther south.

A test by Bon Jasperson in Maidstone Township, near Puce, finished between 1,400 and 1,500 feet in salt water, after getting a slight show of oil around 1,220 feet.

Rocky Mountain

(Continued from Page 59)

30-18-38, cemented back from 3,418 feet to 3,100 feet to straighten hole, and the Amerada Petroleum Corp.'s No. 2 Boon Hardin, SE cor. SW Section 18-18-38, cemented the 7-inch on bottom at 3,922 feet with 250 sacks.

Stanolind Oil & Gas Co.'s No. 11 Byers, C NE NW Section 3-19-38, in the southeastern part of the field, is bottomed at 4,003 feet in lime. It pulled in the rig while trying to pull the drill stem, and 1,800 feet of the stem is in the hole. The same company's No. 11-X Turner, NE cor. SW Section 34-18-38, topped the brown lime at 2,870 feet and is drilling at 3,491 feet in anhydrite. Stanolind's No. 29 State, C SW NW Section 10-19-38, is bottomed at 4,007 feet in lime and waiting on cement. The 8⅝-inch was set at that depth with 150 sacks. Same company's No. 26 Thorpe, C SE NW Section 10-19-38, has cellar and pits completed, and its No. 11 State, C NE SE Section 4-19-38, is building derrick. The Repollo Oil Co.'s No. 2 Grimes, SW SE NW Section 28-18-38, set the 6⅝-inch at 3,992 feet with 250 sacks. Total depth is 4,006 feet. The Shell Petroleum Corp.'s No. 3-A McKinley, SE cor. Section 19-18-38, cemented the 15½-inch at 221 feet with 200 sacks and is drilling at 1,578 feet.

In the Lovington area northwest of the Hobbs Pool, the Western Drilling Co.'s No. 1 State, NE cor. SE Section 13-17-36, is drilling at 4,600 feet in sandy lime and has had no shows. It topped the brown lime at 3,350 feet.

In the Lea area, The Texas Company's No. 1-B Lynch, C SW NW Section 34-20-34, cemented back again to 637 feet in a fourth effort to straighten hole. Total depth is 1,160 feet. Same company's No. 2-A Lynch, C SE SE Section 34-20-34, is bottomed at 602 feet in shale and preparing to run the 15½-inch.

Eddy County

Malco Refineries, Inc., the only common purchaser in the Artesia area, posted a reduced price of 55 cents for Artesia crude and 50 cents for Jackson crude, effective November 10.

Flynn, Welch & Yates' No. 65 State, NE SE SE Section 30-18-28, Artesia area, spudded November 11 and is drilling at 160 feet in sand. Same firm's No. 64 State, SE NE NW Section 10-19-28, is shut down at 120 feet until completion of No. 65. The Pecos Valley Gas Co.'s No. 7 Vandagriff, SE NW SE Section 5-17-28, which is drilling for gas, is spudding at 35 feet. R. Spearow and others' No. 1 McClellan, SW NW NE Section 22-22-23, west of Carlsbad, is drilling at 760 feet in lime.

In the Compton Pool, Finley, Woods & Brainard's No. 5 Brainard, C NW SW Section 5-18-27, is shut down at 1,265 feet, and W. A. Scott's No. 1 Kaiser, NW SE Section 7-18-27, is bottomed at 1,771 feet and may shoot oil show at 1,608-25 feet.

Chaves County

R. D. Compton's No. 1 Emerson, SW cor. SE Section 20-10s-24, near Roswell, failed to find anything worth while in the objective horizon at 1,750 feet and was abandoned at a total depth of 2,275 feet. It stopped in the red beds and salt. Warman Oil Trust's No. 1 Weldon & Hoar, NW cor. SE Section 9-14-25, Blackdom district, is shut down at 193 feet for parts.

De Baca County

The Landowners Oil Co.'s No. 1 State, SW cor. NE Section 16-1s27, Buffalo Creek, is bottomed at 5,240 feet in lime and fishing for underreamer lug.

Guadalupe County

New Mexico Exploration Co.'s No. 1 Anton Chico grant, NE cor. SW Section 20-9n-17, is drilling at 945 feet in arkose. In has been in that formation for more than 100 feet.

San Juan County

Southern Union Gas Co. has completed its gas line connecting the Ute Pasture wells with the main line to Albuquerque and began using gas from these wells on November 15. Only two wells in the Kutz Canon district are being drawn on at this time. This is reported due to pending litigation with the Angel Peak Oil Co. regarding price to be paid for the gas.

R. C. Oswell's No. 3, NE NE Section 33-30-11w, near Aztec, is resuming at 1,050 feet after a shutdown for repairs. Fred Barrett's No. 1 Hart, Section 11-29-11, Fulcher Basin, is rigging up. The Governardor Oil Co.'s No. 1 Likens, SW

Rough Flanges Bite into VELLUMOID

You can always depend on Vellumoid to make tight connections which *stay tight.*

A few yards of Vellumoid, and you have immediately available Oil, Gasoline, Air, and Water gaskets — each of the highest quality—of every size and shape.

Cut or tap out gaskets as you need them. No trouble, no waiting—and no shellac. You can use Vellumoid gaskets again and again.

Unaffected by oils, Vellumoid gaskets last as long as the flange itself.

May we send you a working sample?

VELLUMOID

Sheet Packing and Gaskets

If your Jobber does not handle, write to

The Vellumoid Co., Worcester, Mass.

Ross-Meehan Foundries

Manufacturers—

RIVER CLAMPS a Specialty

Williamson Multispeed Winch for Oil Fields
Williamson Drum Units
Electric Steel Castings, Electrically Annealed
"Certified" Malleable Iron Castings
"Mechanite Metal" Castings
Gray Iron Castings
Special Analyses Castings for—
Oil Producers and Refiners

Chattanooga, Tennessee, U.S.A.

HOPE SERVICE

ENGINEERING--CONSTRUCTION--MANAGEMENT
IN NATURAL GAS
"Unit Responsibility From Well to Meter"

FIELD AND MARKET ANALYSIS
—
ENGINEERING COUNSEL AND DESIGN
—
ORGANIZATION AND FINANCE
—
CONSTRUCTION AND EQUIPMENT
—
MANAGEMENT AND OPERATION

HOPE

HOPE ENGINEERING COMPANY
MOUNT VERNON, O. NEW YORK, N. Y.

NE SW Section 12-29-9w, Blanco district, is drilling at 900 feet.

Valencia County

Western Natural Resources Corp.'s No. 2 San Clemente grant, SW cor. NE Section 5-6n-1e, De Chaves district, is drilling at 2,756 feet and has penetrated the lava intrusion.

Michigan Fields

(Continued from Page 55)

No. 1 well, 2,310 feet from the south line and 990 feet from the west line of the P. Reimenschnider farm, NE NW SW Section 15, Greendale Township, Midland County; to the Reed Oil Co. for No. 4 well, 1,070 feet from the south line and 585 feet from the east line of the E. F. Plunkett farm, SE SE Section 8, Muskegon Township, Muskegon County; to the Shell Petroleum Corp. for No. 1 well, 660 feet from the north and west lines of the Aubrey Mellinger farm, in NW SW Section 9, North Star Township, Gratiot County; for No. 1 well, 660 feet from the south and east lines of the J. Covell farm, SE NW Section 15, Seville Township and county; for a test 660 feet from the south and west lines of the William Fritz farm, SW SW Section 13, Broomfield Township, Isabella County, about 2 miles southeast of the good gas wells on the Keeler-Mitchell farm, which is in Section 10, same township.

Permit was also issued to Thompson Brothers for No. 2 well, 990 feet from the south and west lines of the Ernest Reimenschneider farm, NE SE NE Section 14, Greendale Township, Midland County; to the Talbot Oil Co. for No. 1 well, 330 feet from the south and east lines of the Tope and Talbot farm, SE SE SW Section 11, Greendale Township, Midland County; and for No. 3-B well, 330 feet from the south line and 990 feet from the west line of the State of Michigan land, SE SW SE Section 11, Greendale Township, same county.

C. W. Teater is reported drilling 990 feet from the north line and 330 feet from the east line of the Grace M. Hatch farm, SE NE NE Section 8, Brooks Township, Newyago County. Hesperia Petroleum Co. is reported drilling on the Jones farm, Section 20. At last report the test being made by the Newyago Oil & Gas Co. on the A. J. Bates farm, NE SE Section 12, Sherman Township, had reached 5,900 feet.

No report received from the test by the Oil Properties Corp., 990 feet from the north and east lines of the Carry B. McNitt estate, SW NE SE Section 10, Haring Township, Wexford County.

La.-Ark. Fields

(Continued from Page 52)

half a dozen new ones in the Powhatan vicinity where they have found shallow gas at around 500 feet and are drilling a deeper hole for oil.

South of Urania

Petroleum Industries, Inc.'s location for No. 1 Lee Lumber Co. in Section 13-5n-2e, on which derrick is up for a 3,500-foot test, is in the center of a 10,000-acre block located on a subsurface high on the Jackson supposed to have several hundred feet of closure and to be in the Conroe trend, though it would appear to be several miles north of the play referred to in the beginning of this report. The block is 25 miles or so south of Urania production and half that distance from the few producing wells in the White Sulphur district of LaSalle Parish. The former produces from the Claiborne-Wilcox and has proved in the 10 years or so of its life to be a most consistent pool, and the latter from the base of the Jackson.

Morehouse and Union Parish localities of the Monroe gas field each reported a producer. United Gas Public Service Co.'s No. 9 Sandidge, Section 9-20-4e, Morehouse Parish, gauged 5,506,955 feet of gas at 500 pounds from 2,153 feet and Southern Carbon Co.'s No. 62 fee, Section 30-20-4e, measured 6,012,000 feet at 810 pounds from 2,146 feet. P. & J. Oil Co., drilling No. 1 Southern Advance Bag & Paper Co. in Section 28-13-3, Winn Parish, claimed a show of oil in 6 feet of sand from 1,046-50 feet where it is shut down waiting for casing.

ARKANSAS

About the only news out of Arkansas was that of the abandonment by W. M. King of No. 1 E. L. Beck, NE NW, Section 35-15-25, Miller County, as a dry hole at 3,218 feet in red shale. Kendall Oil Co., drilling No. 2 Fullenwider, Section 13-17-22, Columbia County, cemented 6⅝-inch casing at 2,460 feet and is reported to have had a show of oil and gas at 2,520 feet in sandy shale. Fox & Langford's No. 1 Coleman, Section 25-16-25, is drilling at 3,100 feet after a salt water test two weeks ago at 2,740 feet in the Blossom.

MISSISSIPPI

In Mississippi, aside from developments indicated in the beginning of this article nothing came to light except completion by Love Petroleum Co. of No. 1 Spann, Section 13-5-1e, Rankin County, Jackson gas district, as a gasser gauging 34,000,000 feet from 2,441 feet.

Kansas

(Continued from Page 51)

NE SE, Section 29-21-3w, was dry and abandoned at 3,680 feet. Derby Oil Co.'s No. 1 Hamm, SE cor. NW, Section 33-21-3w, was completed for 2,206 bbls. from 3,470-73 feet. Mabee, Inc., and others' No. Nichel, NE cor. SW, Section 33-21-3w, made 830 bbls. a day from 3,466-68 feet. Wolf Creek Oil Co. and others' No. 2 Krehbiel, SW cor. NE NW, Section 25-19-2w, made 353 bbls. a day from 3,396-3,412 feet. Washoma Oil Co. and others' No. 2 Micks, NE cor. SW, Section 7-20-1w, an old well drilling deeper, is drilling at 3,436 feet. Spencer and others' No. 1 Neufeldt, SW cor. SE, Section 16-21-3w, made 668 bbls. from 3,438-39 feet.

Marion County

Darby Petroleum Co. and others' No. 1 Pankrats, NW cor. SE, Section 5-20-1, was dry and abandoned at 3,455 feet.

Osage County

Urschell and others' No. 1 Bersach, NW cor. SE NW, Section 10-17-17, was dry and abandoned at 1,832 feet.

Rice County

Rogers and others' No. 1 Rainett, NE cor. SE SW, Section 3-21-6w, made 150 bbls. a day from 3,408-12 feet.

Reno County

Olsen and others' No. 1 Ryan, C NE SE, Section 23-23-4w, made 115 bbls. a day from 3,336-76 feet.

Rush County

Skelton and Schleagel's No. 1 Brook Hartman, SW cor. SE NW, Section 4-18-16w, was abandoned at 50 feet.

Sumner County

Austin and others' No. 1 Foy, SW cor. SE SE, Section 14-34-1w, was dry and abandoned at 4,348 feet.

Saline County

Frank Freter's No. 1 Fulton, SW cor. NW, Section 14-16-2w, is a rig.

Sheridan County

Flo and others' No. 1 Schoemaker, SE cor SW SW, Section 27-7-26w, was dry and abandoned at 4,535-40 feet.

Woodson County

Sheedy and others' No. 1 Ryan, NE cor. SW SW, Section 32-24-14, was drilling at 200 feet.

DEATH OF JOHN H. HANNON

John H. Hannon, oil producer, died in Bradford, Pa., on Wdnesday, November 23, after a brief illness. Mr. Hannon was a native of Petroleum Center, Pa. He was born on January 7, 1870. His parents moved to Bradford when oil was discovered near that city, and Mr. Hannon grew up in the oil business and was a producer on his own account when a very young man. He was also a field superintendent for the Forest Petroleum Corp. Mrs. Hannon and nine children survive.

R. H. DEARING DIES

FORT WORTH, Tex., Nov. 26.—R. H. Dearing, 77, drilling contractor of Dallas, Tex., died at a hospital on November 23. In 1910 he formed the firm of R. H. Dearing & Sons, drilling contractors, later as operators, the company's first activity being in the Burkburnett Field, North Texas. He was also president of the Royal Petroleum Corp.

Wildcat Operations in Kansas

(Continued from Page 51)

FORD COUNTY

Swain et al's No. 1 Henthorn, C NW Sec. 21-25-24w..... Top Sil. 5,669 ft.; T.D. 5,782 ft.

GRAHAM COUNTY

Schleimeyer et al's No. 1 Smith, SE Sec. 24-8-25w..... R.U.S.T. 3,615 ft.

GREENWOOD COUNTY

York State Oil Co.'s No. 1 Joy, SE cor. Sec. 11-23-11..... Drlg. 1,400 ft.

HARVEY COUNTY

Phillips Pet. Co.'s No. 1 Weebe, NW SW NW Sec. 30-23-2. Rig.

HASKELL COUNTY

Victor Martin et al's No. 1 Weeks, C NW Sec. 8-28-31w... Rig.

MARION COUNTY

Farrell et al's No. 1 Williamson, C NW SE Sec. 21-19-4.. S.D. 1,015 ft.
Vernon et al's No. 1 Schmidt, C SW NW Sec. 35-19-1..... Drlg. 2,210 ft.

McPHERSON COUNTY

Holcomb & Trummer's No. 1 Waltner, SW NE SE Sec. 19-20-2w ..... Location.
Whan et al's No. 1 Nelson, NW SE Section 18-19-2w..... Location.
Darby Pet. Co.'s No. 1 Pankratz, NW SE Sec. 5-20-1..... Drlg. 3,283 ft., wtr.
Snyder et al's No. 1 Carlson, SE cor. Sec. 4-19-3w..... S.D. 2,858 ft.
Sidwell et al's No. 1 Nichols, NE NW NW Sec. 28-17-1w.. S.D. 1,205 ft.

MORTON COUNTY

Hydraulic Oil Co.'s No. 1 State Land, NW SE Sec. 22, 34-43w ..... T.D. 3,640 ft.; temp. abd.

MORRIS COUNTY

Urschel et al's No. 1 Bersuch, NW SE NW Sec. 16-17-7... S.D. 1,385 ft.

NESS COUNTY

Sinclair Prairie Oil & Gas Co.'s No. 1, C SW SW Sec. 16-19-21w ..... Rig.

NORTON COUNTY

Richards et al's No. 1 Colby, Sec. 17-4-21w..... Rig.

OSAGE COUNTY

Briggs & Smith's No. 1 Wood, SE NW Sec. 21-14-15.... S.O. 2,190-2,200 ft.; temp. abnd.

PRATT COUNTY

Ninnescah O. & G. Co.'s No. 1 Hardesty, SW SE SE Sec. 28-27-11w ..... Drlg. 3,284 ft.

RENO COUNTY

T. L. Johnson's No. 1 Crotts, NE NW NE Sec. 27-26-10w. S.D. 50 ft.
Martin et al's No. 1 Yadu, C NW NW Sec. 15-24-5w..... Abnd. 318 ft.

RICE COUNTY

R. Ramsey's No. 1 School Lot, NW SW NW Sec. 32-19-9w. S.D. 2,600 ft.
Langston et al's No. 1 Wells, NE SE Sec. 4-20-9w..... Rig.
J. Liggett et al's No. 1 Thodel, C NW NW Sec. 11-21-7w.. S.D. 50 ft.

RUSH COUNTY

Skelton et al's No. 1 Brock-Hartman, SW SE NE Sec. 4-18-16w ..... S.D. 50 ft.

SHERIDAN COUNTY

Flo et al's No. 1 Shoemaker, SE SW Sec. 27-7-26w ..... Hole full water 4,535-45 ft.; S.D.

STEVENS COUNTY

Argus Prod.'s No. 2 Christopher, C NE Sec. 16-33-39w.... S.D. 5,521 ft.

STAFFORD COUNTY

Stringer et al's No. 1 Swindle, SW NE Sec. 2-25-11w..... Spudded; S.D.

SUMNER COUNTY

Austin et al's No. 1 Fog, SW SE SE Sec. 14-34-1w..... T.D. 4,348 ft.; P.B. to 3,960-4,005 ft.
Trees Oil Co. and Shell's No. 1 Springate, NE SE SW Sec. 6-34-2 ..... Fishing 3,639 ft.

Wildcat Operations in Louisiana-Arkansas

(Continued from Page 52)

Mrs. A. L. Ibach, tr.'s No. 1 Rambin, 250 ft. S and E, NW cor. NE NE Sec. 32-11-11 ..... Began Nov. 14; cmtd. 10-in. 101 ft.
E. T. Oakes' No. 1 R. H. Bryant et al, 200 ft. N and W, SE cor. NE NW Sec. 30-13-15 ..... S.D. 4,365 ft.
DeSoto Dev. Co.'s No. 1 Nickey, Sec. 7-13-12 ..... Partly rigged up and S.D.
Geo. L. Pace's No. 1 John Cole, 200 ft. N, 150 ft. E, SW cor. SE NE Sec. 11-11-11 ..... Derrick.
W. M. Pollock's No. 1 L. H. Cook, 330 ft. S, 330 ft. W NE cor. NW, Sec. 1-13-15 ..... Derrick.
G. C. Smith et al's No. 1 Wollums, 330 ft. N and W, SE cor. Sec. 30-13-12 ..... S.D. chalk 1,400 ft.
E. J. Stanberry's No. 1 Naborton O. & G. Co., Sec. 32-13-11 ..... Washing to bottom; T.D. 850 ft.
State Drlg. & Prod. Co.'s No. 1 Wemple, 330 ft. N and E, SW cor. NW SW Sec. 14-12-11 ..... Rig up.
Walters-Nicholson, tr.'s No. 1 Jim Guy, Sec. 8-11-13.... Recmtd. split csg; W.O. 2,765 ft.
Warren & Craig's No. 1 J. A. Wagner, 150 ft. S and W, from C, Sec. 5-12-14 ..... Fsg. for bit; T.D. 750 ft.
Jack Whitson's No. 1 Sanders, 330 ft. N and E, SW cor. Sec. 19-11-13 ..... Small show gas; W.O. 1,961 ft.

GRANT PARISH

A. W. Phillips, tr.'s No. 1 Cameron, 300 ft. N, 200 ft. E, SW cor. SW NW Sec. 26-7-3w ..... Derrick.
O. Robichaux's No. 1 T. M. Bradford, 1,870 ft. E, 314 ft. S, NW cor. Sec. 16-9n-1e ..... Derrick.

LINCOLN PARISH

Loring Oil Co.'s No. 1 Simonton, 300 ft. N, 480 ft. E, SW cor. SE NE Sec. 25-20-4w ..... S.D. anhydrite 3,331 ft.

MOREHOUSE PARISH

Feazel & Kaill's No. 1 Davenport, Sec. 23-21-4e ..... S.D. 2,510 ft.
H. W. Snowden's No. 1 Meyers, 330 ft. S and E, SW cor. NE NE Sec. 15-22-7e ..... S.D. 30 ft.

NATCHITOCHES PARISH

Allender & Rasmussen's No. 1 Cane River, 330 ft. N and W, SE cor. Sec. 61-6n-5w ..... S.D. 100 ft.
W. M. Coates' No. 1 Ross Olive, Sec. 10-9-10, 660 ft. S and E from cen. of Sec. ..... S.D. 2,010 ft.
Dr. H. S. Gerson's No. 1 Smith, Sec. 11-10-8, 2,000 ft. N, NE cor. of irregular Sec. 10, in Sec. 11 ..... T.A. 1,875 ft.
J. B. Oil Co.'s No. 1 Hankins et al, Sec. 67-10-7 ..... Drlg. 640 ft.
R. A. Keaton's No. 1 Bastrop State Bank, 200 ft. N and W, SE cor. NE NW Sec. 17-10-6 ..... Location.
R. A. Keaton's No. 1 Stephens, Sec. 25-10-6, 320 ft. N and W, SE cor. NW NW ..... S.D. 1,700 ft.
Natchitoches Pet. Co.'s No. 1 Edenborn, 2,240 ft. W, 1,320 ft. S, NE cor. Sec. 4-11-6w ..... S.D. 2,234 ft.
H. W. Perritt's No. 1 Cook, 165 ft. E, 105 ft. N, SW cor. NE SW Sec. 3-8-9 ..... S.D. 2,992 ft.
Sabine Bayou Dev. Co.'s No. 1,130 Caw, 330 ft. N and E, SW cor. SE Sec. 9-12-5 ..... T.A. 2,690 ft.
Texana Oil Co.'s No. 1 Clark-Morris Lbr. Co., 679 ft. N, 560 ft. E, C, Sec. 23-5-6 ..... Set 6⅝-in. 3,300 ft; tested S.W. 3,475 ft.

OUACHITA PARISH

Milhivan Gas Corp.'s No. 1 W. Va. L. & T. Co., 1,980 ft. E, 1,320 ft. N, center Sec. 10-17-5e ..... Location.
Monroe Oil & Royalties Co.'s No 1 Thieler, 150 ft. N and E, SW cor. SE NW Sec. 34-18-2e ..... S.D. 2,575 ft.

Wilson & Mitchell's No. 1 Williams, Sec. 5-14-1e, 330 ft. E, 240 ft. S, NW cor. SW SE ..... S.D. 3,480 ft.

RAPIDES PARISH

Pet. Industries, Inc.'s No. 1 Lee Lbr. Co., 330 ft. N, 300 ft. W, SE cor. NW SE Sec. 13-5n-2e ..... Derrick.

RED RIVER PARISH

Edward & Clay's No. 1 Delta Pecan Co., 1,600 ft. N, 450 ft. E, SW cor. Sec. 27-13-11 ..... S.D. 1,175 ft.

G. T. Shaw et al's No. 1 Wilkinson, 300 ft. N, 460 ft. W, SE cor. NE SE Sec. 4-12-10 ..... Location.

RICHLAND PARISH

Humble Prod. Co.'s No. 1 fee, SW NW Sec. 11-14-6 ..... Location.

SABINE PARISH

Adams & Roberson's No. 1 Peterson, 400 ft. N, 200 ft. W, SE cor. NE NE Sec. 35-8-13 ..... S.D. 100 ft.

John R. Bunn's No. 1 Sabine Lbr. Co., 295 ft. S, 386 ft. W, NE cor. SW NE Sec. 9-7-13 ..... T.A. 2,422 ft.

Byers et al's No. 1 Bishop, SW cor. SW NE Sec. 16-7-13. S.D. 41 ft.

Coates Pet. Co.'s No. 3 Stille, 330 ft. N and E, SW cor. Sec. 35-8-13 ..... Location.

Mark Curtis et al's No. 1 Sabine Lbr. Co., 330 ft. N and W, SE cor. NE SE Sec. 35-8-13 ..... S.D. 2,400 ft.

B. Q. Daniels' No. 1 Armstrong, SE cor. SE NE Sec. 31-8-10 ..... Derrick.

Mrs. Dabney's No. 1 Hill, 265 ft. N, 235 ft. W, SE cor. NE NE Sec. 5-7-11 ..... Location.

Mrs. Dabney's No. 2 Hill, 230 ft. S, 235 ft. W, NE cor. Sec. 5-7-11 ..... Location.

Flinchbaugh & Myers' No. 1 Aaron, 250 ft. S and E, NW cor. Sec. 32-9-13 ..... Rigged up on second hole; W.O.

R. L. Gay, tr.'s No. 1-A Long Bell Lbr. Co., 430 ft. S, 200 ft. W, NE cor. NW NW Sec. 10-8-13 ..... S.D.; shale and lime 6,880 ft.

Gibson & Johnson, Inc.'s No. 2 Frost Lbr., 330 ft. S and W, NE cor. NW NE Sec. 15-9-13 ..... Swabbing 20 bbls. oil 1,534 ft.

W. N. Hankins' No. 1 Tilley, 200 ft. E, 30 ft. S, NW cor. SE SE Sec. 30-8-12 ..... Swedging out 6-in. csg. 2,162 ft.

R. T. Henderson's No. 1 Sistrunk, 450 ft. N, 150 ft. W, C. Sec. 9-9-12 ..... Began drlg. Nov. 21; cmtd. 10-in. 88 ft.

Hells et al's No. 1 Sabine State Bank, 350 ft. N and W, SE cor. SW SW Sec. 28-8-11 ..... Drlg. rock 1,350 ft.

Ab Jones' No. 1 Garcia, 200 ft. S and W, NE cor. NW SE Sec. 4-7-13 ..... Set 6-in. 2,070 ft.

G. E. Jordan's No. 1 Dew, 330 ft. N, 340 ft. E, SW cor. SW SE Sec. 34-8-11 ..... S.D. for wtr. 950 ft.

E. P. Kilgore's No. 1 Thomas, 320 ft. S, 200 ft. E, NW cor. SE Sec. 30-8-11 ..... Comp. flowing 1,000 bbls. 2,341 ft.

Lane, Bundy & Allen's No. 1 Andree, Sec. 22-7-11 ..... Derrick.

C. D. Loe, tr.'s No. 1 Whitney, 330 ft. N and W, SE cor. NW NE Sec. 12-9-14 ..... Drlg. 1,200 ft.

H. C. Maulding's No. 1 Moores, 330 ft. S and W, NE cor. SE NE Sec. 16-7-13 ..... Tested dry; 2,494 ft.

Ben Merritt's No. 1 Lucina, 400 ft. N, 378 ft. E, SW cor. SW NE Sec. 4-5-12 ..... Derrick.

Paul L. Miller, tr.'s No. 1 Chadick, 550 ft. S, 175 ft. E, NW cor. NE SW Sec. 32-8-10 ..... Comp. pumping 40 bbls. 2,589 ft.

E. F. Neely's No. 1 Rains, 660 ft. N; 100 ft. W, SE cor. SW NW Sec. 14-7-11 ..... Comp. pumping 40 bbls. 2,540 ft.

W. M. Neely's No. 1 Buvens, 350 ft. S, 100 ft. E, NW cor. NE Sec. 21-7-11 ..... T.A. 2,458 ft.

C. D. Neff, tr.'s No. 1 Snell, Sec. 9-7-11, 350 ft. N, 660 ft. W, SE cor. Sec. ..... W.O.S.R. 2,509 ft.

H. W. Perritt's No. 3 Brown Lbr. Co., 519 ft. S, 455 ft. W, NE cor. NW NE, Sec. 31-8-10 ..... S.D. 1,050 ft.

Roy Raines et al's No. 1 Beard, 720 ft. E, 700 ft. N, SW cor. SW SE Sec. 8-8-10 ..... Set 10-in. 41 ft; S.D. 250 ft.

Reeves & McNeely's No. 1 Ponder, 330 ft. N and W, from C, Sec. 15-7-11 ..... Began Nov. 7; cmtd. 10-in. 21 ft.

Thornton et al's No. 1 S. S. Martinez, 355 ft. S, 330 ft. W, NE cor. SE NE Sec. 4-7-13 ..... S.D. 2,048 ft.

Otis A. Roberts' No. 1 Sabine Lbr. Co., 224 ft. S, 481 ft. W, NE cor. SW NE Sec. 5-7-13 ..... S.D; W.O. 2,500 ft.

Roberts & Sledge's No. 1 La. Long Leaf Lbr. Co., 290 ft. N, 468 ft. E, SW cor. NE SE Sec. 29-8-10 ..... Derrick pattern.

Roberts & Sledge's No. 2 Sabine Lbr. Co., 803 ft. W, 796 ft. N, SE cor. SE SW Sec. 5-7-12 ..... W.O.S.R. 2,480 ft.

CONVERSE DISTRICT

Alford & Cleary's No. 1 Jackson, 330 ft. N and E, SW cor. SE NW Sec. 10-9-13 ..... Location.

Alford & Cleary's No. 1 Patrick, 330 ft. S and W, NE cor. SW NE Sec. 11-9-13 ..... Location.

Cloud & Bolin's No. 1 Bowman-Hicks, SE cor. NE NE Sec. 26-9-13 ..... Cored sand and marl 1,724 ft; bailed down 1,200 ft; no show.

Evans Bros.' No. 1 Crawford, 300 ft. S, 300 ft. W NE cor. SE SE, Sec. 20-9-13 ..... Location.

H. P. Key's No. 1 T. J. Paul, 120 ft. S, 110 ft. W, NE cor. Blk. 25, Converse townsite in Sec. 10-9-13 ..... Location.

H. C. Lessenger's No. 1 Bowman-Hicks, 330 ft. S, 330 ft. E, NW cor. Sec. 13-9-13 ..... Derrick.

Lee & Burentt's No. 1 Burckett, 330 ft. N and W, SE cor. NW SW Sec. 10-9-13 ..... Cored 1,600 ft; no sand; pulled csg. at 1,472 ft; drlg. deeper.

Hy Rockmill's No. 1 Cassell, 330 ft. S, 330 ft. W. NE cor., Sec. 35-9-14 ..... Location.

Rockmill et al's No. 1 Bowman-Hicks, 330 ft. S and W, NE cor. NW Sec. 36-9-14 ..... Rigging up.

Nick Barbare's No. 1 Ryals, 330 ft. S and E, NW cor. Sec. 27-9-13 ..... Began Nov. 12; cmtd. 10-in. 45 ft; drlg. 1,015 ft.

Rockmill et al's No. 1 Patrick, 330 ft. S, 330 ft. E, NW cor. NE NW Sec. 21-9-13 ..... Derrick.

E. M. Self's No. 1 Paul, 330 ft. N and W, SE cor. NE SW Sec. 9-9-13 ..... Derrick.

Service Drlg. & Royalty Corp.'s No. 1 Whitney Corp., 330 ft. N and W, SE cor. Sec. 32-10-13 ..... Rigging up.

Ben Youngblood et al's No. 1 Burket, 330 ft. S and W, NE cor. NE NW Sec. 10-9-13 ..... Derrick.

Roubko & Labarre's No. 1 Maines, 427 ft. E, 114 ft. N, SW cor. SE NE Sec. 35-8-11 ..... Began Nov. 4; cmtd. 12½-in. 106 ft.

Sabine Prod. Co.'s No. 1 Whiting Corp., 150 ft. N and E, SW cor. Sec. 4-9-13 ..... Top marl 1,470 ft. and cmtd. 8-in.

Silvey & O'Mara's No. 1 Sabine Lbr. Co., 300 ft. S, 600 ft. W, NE cor. SW NE Sec. 9-7-13 ..... Set 8-in. 42 ft; S.D. 1,800 ft.

Skidmore & Mize's No. 1 Stoker, 440 ft. N, 225 ft. E, SW cor. SE NW Sec. 33-8-10 ..... S.D. 1,450 ft.

C. W. Smith et al's No. 1 Pattison, 330 ft. S and E, NW cor. SE NW Sec. 33-10-11 ..... Began drlg. Nov. 17; cmtd. 12½-in. 210 ft; S.D. 800 ft.

Southland Drlg. Co.'s No. 1 Frost Lbr. Co., 330 ft. N and W, SE cor. NE NE Sec. 13-9-11 ..... S.D. 1,920 ft.

H. B. Stacey et al's No. 1 Hefkobits, 457 ft. N, 583 ft. E, SW cor. SE Sec. 34-8-13 ..... S.D. 2,652 ft.

Thornton et al's No. 2 S. S. Martinez, 312 ft. E, 205 ft. S, NW cor. SE NE Sec. 4-7-13 ..... Location.

Triangle Drlg. Co.'s No. 1 La. Long Leaf Lbr. Co., 330 ft. N and W, SE cor. Sec. 11-6-11 ..... S.D. 4,013 ft.

W. M. Underman's No. 1 F. Cross, 53 ft. S, 146 ft. W, NE cor. SW SE Sec. 25-8-11 ..... Began drlg. Nov. 20; cmtd. 10-in. 42 ft.

TENSAS PARISH

H. V. Schumacker's No. 1 Currey, 1,320 ft. S, 1,320 ft. E, NW cor. Sec. 39-11-12 ..... S.D. 3,645 ft.

UNION PARISH

E. S. Goens et al's No. 1 Frost Lbr. Co., 330 ft. S and E, NW cor., Sec. 17-23-2e ..... Rigging up.

W. D. Wingfield et al's No. 1 Union Sawmill Co., 330 ft. N and E, SW cor. Sec. 27-23-1e ..... Began Nov. 13; cmtd. 10-in. 152 ft.

Wong Hing, tr.'s No. 1 Union Sawmill Co., 712 ft. W, 240 ft. N, SE cor. Sec. 15-22-1e ..... S.D. 70 ft.

VERNON PARISH

Earl Jones' No. 1 Willis, 350 ft. N, 400 ft. E, SW cor. SE SE Sec. 22-3n-9w ..... Derrick.

Llano Co-operative Colony's No. 1 fee, NW NE, Sec. 34-2n-9w ..... Top Cockfield 3,333 ft; S.D. 3,344 ft.

WEBSTER PARISH

R. E. Silvey et al's No. 1 Drake est., C NE NE Sec. 14-19-10 ..... Rigging up.

WEST CARROLL PARISH

Mamie S. McCurry's No. 1 Richard & Donnaw, 300 ft. N and E, SW cor. Sec. 13-19-9e ..... Rigging up.

WINN PARISH

P.V.T. Oil Co.'s No. 1 Southern Paper Co., 150 ft. S and W, NE cor. SW Sec. 28-13-3 ..... S.D. for 8-in. csg. 1,050 ft.

Arkansas

CLAY COUNTY

S. C. Jeffus' No. 1 Underwood, 510 ft. N, 350 ft. W, C NW SE Sec. 4-20-8 ..... S.D. 1,253 ft.

CLEBURNE COUNTY

Frank S. Craver et al's No. 2 Doniphan Lbr. Co., 700 ft. N, 200 ft. E, SW cor. SW Sec. 34-11-9 ..... Drlg. shale 2,700 ft.

COLUMBIA COUNTY

Kendall Oil Co.'s No. 1 Fullenweider, 300 ft. S and E, NW cor. NE NE Sec. 13-17-22 ..... Cmtd. 6-in. 2,460 ft; claim show oil and gas 2,520 ft.

DREW COUNTY

Co-Operative Dev. Co.'s No. 1 Ogles, Sec. 35-15-5, 330 ft. S and E, NW cor. NE NW ..... S.D. 3,378 ft.

LAFAYETTE COUNTY

Fox & Langford's No. 1 Coleman Bros., 330 ft. S and E, NW cor. SE SE Sec. 25-16-25 ..... D.S. test 2,740 ft; 18 fourbies S.W; drlg. 3,100 ft.

Chas. McDonald's No. 1 Allen, 400 ft. N and W, SE cor. SE SW Sec. 2-19-26 ..... Top Nacatoch 1,765 ft; top chalk 2,247 ft; drlg. 2,650 ft. in chalk.

Sam E. Wilson, Jr.'s No. 1 Smith, 330 ft. N and E, SW cor. NW SE Sec. 24-19-25 ..... Derrick.

LINCOLN COUNTY

Lawrence Cook, tr.'s No. 1 McGhee Planting Co., 420 ft. S, 200 ft. W, NE cor. NE SW Sec. 5-8-7 ..... Arranging to set 1,000 ft. of 8-in; T.D. 3,250 ft.

LITTLE RIVER COUNTY

American Portland Cement Co.'s No. 1 fee, 150 ft. S and E, NW cor. SW NE Sec. 21-12-32 ..... Cmtd. 10-in. 100 ft; drlg. 600 ft.

M. E. Sanderson's No. 1 Hale, 1,200 ft. E, 800 ft. N, SW cor. SE SE Sec. 22-12-29 ..... Coring 1,400 ft.

MILLER COUNTY

Roy Baker et al's No. 1 Beck, 150 ft. N and E, SW cor. SW SE, Sec. 11-17-27 ..... Rig up.

Dennis & Cubage's No. 1 Head, 150 ft. E, 200 ft. N, SW cor. Sec. 20-15-26 ..... D.S. test 2,762-90 ft; S.W.

Duluth-Ark. Oil Co.'s No. 1 Beck, 150 ft. N, 170 ft. E, SW cor. NW SW Sec. 34-15-26 ..... Drlg. 2,482 ft.

Fitzwater et al's No. 1 C. J. Norsen, SW cor. SE SW Sec. 20-15-27 ..... S.D. 1,960 ft.

Fitzwater et al's No. 1 Fouke, 150 ft. S and W, NE cor. Sec. 11-17-27 ..... S.D. 105 ft.

Chas. B. Lenz's No. 1 Dean, 125 ft. E, 200 ft. S, NW cor. SE Sec. 19-15s-25w ..... Drlg. 2,575 ft.

W. E. Noel et al's No. 1 Dickson hrs., 1,980 ft. W, 660 ft. S, NE cor. Sec. 11-20-27 ..... S.D; W.O. 2,600 ft.

John C. Rogers' No. 1 Price, 230 ft. S, 400 ft. E, NW cor. NW NW Sec. 17-16-25 ..... Rigging up.

Bob Simmons' No. 1 Lamb, NE NW NW Sec. 14-16-27. Derrick pattern.

Sorrells & Tidwell's No. 1 Roy McCowan, 660 ft. S and E, NW cor. NW SE Sec. 22-15-28 ..... Set 10-in. 106 ft; S.D. 400 ft.

OUACHITA COUNTY

McLeon et al's No. 1 L. D. Neely, Sec. 23-15-16, 200 ft. N and W, SE cor. NE SW ..... S.D. 150 ft.

Chas. Steele et al's No. 1 Anderson, 155 ft. S, 150 ft. E, from center Sec. 36-12-18 ..... T.D. 1,015 ft.

PIKE COUNTY

E. R. Henderson's No. 1 J. L. Lee, 400 ft. S, 350 ft. E, NW cor. SW SE Sec. 31-8-24 ..... S.D; W.O. 1,020 ft

E. R. Henderson's No. 1 W. B. East, 200 ft. S, 150 ft. W, NE cor. Sec. 13-9-23 ..... S.D; rig.

PRAIRIE COUNTY

Powell Creek O. & G. Co.'s No. 1 Kloss, NE SW Sec. 3-4n-6w ..... Partly rigged up and S.D.

ST. FRANCIS COUNTY

E. R. Henderson's No. 1 Britton, Sec. 1-4-1e, 1,000 ft. S and E, NW cor. NE NW ..... S.D. shale and gumbo 3,725 ft.

UNION COUNTY

Cox et al's No. 1 Goodwin, 360 ft. S, 180 ft. W, NE cor. SW SW Sec. 3-16-16 ..... S.D. 140 ft.

Graves, Ferguson & Fuller's No. 1 Patterson, SW cor. NE NE Sec. 31-19-16 ..... Derrick.

Mamie McCurry et al's No. 1 Rowland, 200 ft. N and E, SW cor. Sec. 9-19-11 ..... Derrick.

Wilson & Chapman's No. 1-A D. Norman, 330 ft. S and E, NW cor. N½ NE SE Sec. 3-18-13 ..... S.D. 1,678 ft.

WASHINGTON COUNTY

(Cable tools)

A. B. Chase and Ed Rogers' No. 1 Cunningham, 125 ft. S, 300 ft. W, NE cor. SW NE Sec. 14-15-32 ..... S.D. 1,750 ft.

WOODRUFF COUNTY

B. F. Thompson's No. 1 Rosser, 500 ft. N and E, SW cor. SE SE Sec. 7-5n-2w ..... Set 10-in. 200 ft; drlg. 440 ft.

East Texas

BOWIE COUNTY

Logan & Elliott's No. 1 Smith, 9,600 ft. S, 2,500 ft. W, NE cor. Chas. Lewis Sur. ..... S.D. 4,505 ft.

Lanford et al's No. 1 W. W. Whybark, 200 ft. S, 200 ft. W, SW cor. J. H. Dyer Sur. ..... S.D. 1,792 ft.

CASS COUNTY

Davis & Pigg's No. 1 Roy Bryan, SW cor. Roy Bryan 88-ac. tr., Albert H. Lattimer Sur. ..... S.D. 2,860 ft.

C. E. Murdock's No. 1 First National Bank, Evans Watson Sur. ..... S.D. 4,390 ft.

John C. Rogers' No. 1 I. E. Lanier, 573 ft. N, 879 ft. W, SE cor. Lanier 85 ac. in K. E. Welborn Sur. .... S.D. 2,280 ft.

John C. Rogers et al's No. 1 W. Q. Henderson, 3,100 ft. S, 2,100 ft. E, NW cor. Wm. Davis Sur. ..... S.D. 960 ft.

HARRISON COUNTY

Great Eastern Oil Co.'s No. 1 Rudd, Wm. Steele Sur. .... Drlg. 950 ft.

R. E. Nash et al's No. 1 Henderson, G. L. Bledsoe Sur... S.D. 3,485 ft.

Ryan Cons. Pet. Corp.'s No. 1 J. M. Fuhr, 1,300 ft. N of NW cor. T. J. Copelin Sur., 1,675 ft. SW at right angles to NW SE line of O'Neal Sur. ..... Drlg. plug 5,143 ft.

MARION COUNTY

Baunoch Dev. Co.'s No. 1 Miller, 725 ft. N, 1,470 ft. E, SW cor. H. Fulgram Sur. (was Gist, Claunch & Dodson) ..... S.D. 4,580 ft.

Geo. Hindeman et a's No. 1 F. V. Lindsey, 2,500 ft. S, most northerly N line, 3,555 ft. E, most easterly W line, Alexander Albright Sur. ..... S.D. 2,280 ft.

Purcell et al's No. 1 Coker, M. Reed Sur. ..... S.D. 1,957 ft.

Starling & Preston's No. 1 Henderson, R. Bennington Sur. H. R. S. ..... Drlg. 1,440 ft.

PANOLA COUNTY

Root-Skinner's No. 1 Daniel, 600 ft. N and W lines, Mrs. Gerrell 100-ac. tr., SW cor. Isabel Hanks Sur. ..... S.D. for D.S. 740 ft.

J. L. Nelson et al's No. 1 J. Williams, 300 ft. S, 700 ft. W, NE cor. Williams' 67-ac. tr., James Hanks Sur... S.D. 2,055 ft.

SHELBY COUNTY

J. H. Francis' No. 1 John Mims, Mary Smith Sur. ..... Tested dry 2,842 ft; drlg. 3,380 ft; W.O.

General Minerals Co.'s No. 2 Pickering Lbr. Co., 600 ft. N, 400 ft. E, SW cor. D. S. Height Sur. ..... Drlg. 3,600 ft.

Oil News' No. 1 Pickering, C. H. Patterson Sur. ..... Reaming 3,360 ft.

Henry Moulding's No. 1 Frost Lbr. Co., NE cor. Frost Lbr. Co.'s 20-ac. tr., A. D. Fountain Sur. ..... Drilled to 50 ft; S.D.

Nell Lease & Oil Well Synd.'s No. 1 W. P. Harvey, NW cor. W. P. Harvey 130 ac. in W. P. Harvey Sur. .... Derrick pattern.

Prairie Creek Crude Co.'s No. 1 Ellington, 150 ft. and 200 ft. W from SE cor. 42-ac. tr., J. Burleson Sur. .. S.D. 3,380 ft. for csg.

Ridgeway et al's No. 1 Polley, Dominguez Gonzales Sur., 3,180 ft. E of SW cor., 160 ft. N at right angles of Polley 457-ac. tr. ..... S.D. 3,045 ft.

Redberry et al's No. 1 Pickering Lbr. Co., 600 ft. N, 400 ft. E, SW cor. Jane Stoddard Sur. ..... S.D. 2,375 ft.

Gray & Dunbar's No. 1 C. A. Hayden, 600 ft. N and W, SE cor. 152-ac. tr. in D. T. F. Yordt Sur. ..... S.D. for wtr. 2,230 ft.

Louisiana-Arkansas Proven Areas

North Louisiana

BOSSIER—BELLEVUE AREA

Company, well, farm name, section and block—	Remarks:
H. I. Morgan's No. 3 Smith, 1,520 ft. N, 660 ft. W, SE cor., Sec. 32-19-11	Drlg. red shale 2,360 ft.

CADDO—RODESSA AREA

Ark.-La. P. L. Co.'s No. 1 F. E. Gloyd, 660 ft. E, 100 ft. S, NW cor. NW NE, Sec. 34-23-16	Drlg. lime and shale 5,225 ft.
United Gas Public Service Co.'s No. 1 Levee Board, 1,980 ft. N, 1,320 ft. E, SW cor. Sec. 27-23-16	Rig up.

CADDO—BETHANY AREA

Calatex O. & G. Co.'s No. 1 Mrs. E. Augura, 3,567 ft. N, 2,400 ft. E, SW cor., Sec. 19-16-16	Began drlg. Nov. 18; cmtd. 9-in. 234 ft; drlg. 1,700 ft.

CADDO—BLANCHARD AREA

Nick Barbare's No. 1 Puckett, 330 ft. S, 150 ft. W, NE cor., Sec. 4-18-16	Drlg. 1,000 ft.
Louana O. & G. Co.'s No. 1-A Hammock, 700 ft. S and W, NE cor., Sec. 5-19-16	Tested 5,000,000 ft. gas; cmtd. 6-in. 2,747 ft; bailing to test.
Louana O. & G. Co.'s No. 1 Carrie et al, 1,320 ft. W, 660 ft. S, NE cor. SE, Sec. 32-19-16	Derrick.
Louana O. & G. Co.'s No. 1 Waskom, 660 ft. N and E, SW cor. Sec. 29-19-16	Set 10-in. 50 ft.

DE SOTO PARISH

Abernathy et al's No. 1 J. M. Nabors, 2,485 ft. E, 1,185 ft. N, SW cor. Sec. 33-13-11	Drlg. chalk 1,320 ft.

MOREHOUSE PARISH

Amalgamated Carbon Co.'s No. 4 Cole, 2,300 ft. N, 3,352 ft. W, SE cor. Sec. 7-19-4e	Location.

RICHLAND PARISH

Pelican Nat. Gas Co.'s No. 3 Noe, 1,320 ft. N, 660 ft. W, SE cor. SW, Sec. 11-17-5e	Cmtd. 6-in. 2,290 ft; drlg. plug.

SABINE PARISH—ZWOLLE

Abbott & Rankin's No. 1 Nulten, 330 ft. S and E, NW cor. SE NE, Sec. 2-7-13	W.O.S.R. 2,397 ft.
Alexander & Mason's No. 1 R. C. Cooper, 330 ft. S, 297 ft. E, NW cor. NE Sec. 31-8-11	Began drlg. Nov. 18; cmtd. 10-in. 42 ft; drlg. 1,590 ft.
Jule Alford's No. 1 Stoker, 212 ft. N and W, SE cor. NE SW, Sec. 16-7-11	S.D. 2,630 ft.
J. H. Askew's No. 3 Henderson, 400 ft. S, 150 ft. E, NW cor. SW SE, Sec. 31-8-10	Derrick.
J. H. Askew's No. 3-E McNeely, 66 ft. S, 100 ft. W, NE cor. SE NE, Sec. 14-7-11	W.O.S.R. 2,658 ft.
J. E. Bailey's No. 1 Lee Lites, 330 ft. S, 330 ft. W, NE cor, SE SW, Sec. 28-8-11	Location.
Baird Bros.' No. 3 Martinez, 1,012 ft. S, 907 ft. E, NW cor. NW SW, Sec. 2-7-13	Tested dry 2,410 ft; arranging to deepen.
Baird, Stone & McFaddin's No. 1 Duggan, 150 ft. S and W, NE cor. SE, Sec. 14-7-11	W.O.S.R. 2,697 ft.
C. W. Beene et al's No. 1 Cutrer, 300 ft. N and E, SW cor., Sec. 12-7-11	Derrick.
Bridges & Clark's No. 4 Williams, 60 ft. N, 250 ft. W, SE cor. NE SW, Sec. 33-10-12	Tested small show oil 3,270 ft; drlg. 3,380 ft.
W. Brumley's No. 1 fee, 330 ft. N and W, SE cor. NW NW Sec. 2-7-11	Derrick.
Cameron Oil Co.'s No. 1 G. Martinez, 845 ft. E, 540 ft. N, SW cor., Sec. 2-7-13	Set 10-in. 41 ft.
Capitol-Crescent Oil Co.'s No. 1 Sabine State Bank, 990 ft. E, 823 ft. N, SW cor. NW SW, Sec. 2-7-13	Derrick.
Capitol-Crescent Oil Co.'s No. 1 Byrd, 340 ft. W, 350 ft. S, NE cor. SE NW, Sec. 1-7-11	Top marl 2,428 ft; cmtd. 6-in.
T. B. Carpenter's No. 1 Cutrer, 330 ft. S and E, NW cor. SE, Sec. 13-7-11	Began drlg. Nov. 3; cmtd. 10-in. Drlg. 1,310 ft.
Colonial Oil Co.'s No. 2 Williams, 1,045 ft. S, 310 ft. E, NW cor. SE NW Sec. 13-7-11	Began drlg. Nov. 17; cmtd. 10-in. 42 ft; drlg. 930 ft.
Continental Drlg. Co.'s No. 1 Leone est., 70 ft. N, 200 ft. W, SE cor., Sec. 31-8-12	Derrick.
Craig et al's No. 1 Pouder, 330 ft. N and E, SW cor. SE NW, Sec. 15-7-11	Derrick.
Crescent Drlg. Co.'s No. 1 Peters, 330 ft. N and E, SW cor. SE SW Sec. 2-7-11	Location.
Edwards & Hubler's No. 1 G. Martinez, 510 ft. S, 330 ft. E, NW cor. SW SW, Sec. 2-7-13	Derrick.
V. R. Hammons et al's No. 1 Travis, 540 ft. N, 150 ft. E, SW cor. NW SE, Sec. 13-7-11	S.D. black shale 2,435 ft.
D. D. Holcomb's No. 2 Quayhagiew, 149 ft. N, 200 ft. E, SW cor. SE SE, Sec. 11-7-11	W.O.S.R. 2,652 ft.
E. L. Hunt's No. 2 Livingston, 330 ft. S and E, NW cor. SW NW Sec. 9-7-11	Began Nov. 18; cmtd. 10-in. 40 ft.
Imperial Producers Co.'s No. 1 Leone Est., 1,334 ft. S, 660 ft. E, NW cor., Sec. 32-8-13	Location.
H. M. Jones' No. 1 Raines, 300 ft. S, 150 ft. W, NE cor. NW NW, Sec. 14-7-11	Cmtd. 6-in. 2,396 ft; T.D. 2,410 ft.
W. F. Lacy's No. 3 Cooper, 130 ft. N, 398 ft. E, SW cor. SW NE Sec. 30-8-11	Cmtd. 6-in. 2,197 ft; top marl 2,-345 ft; chalk 2,360 ft; drlg. 2,-410 ft.
Loring Oil Co.'s No. 21 Bowman-Hicks, 450 ft. S, 275 ft. E, NW cor. SW NW, Sec. 16-7-13	Drlg. lime 4,960 ft.
Magnolia Pet. Co.'s No. 1 Cooper, 350 ft. S, 350 ft. W, NE cor. Sec. 30-8-11	Show gas 3,216 ft; arranging to test 3,414 ft.
L. M. McGuffin's No. 1 Chadick, 300 ft. N, 375 ft. E, SW cor. NE SE, Sec. 31-8-10	W.O.S.R. 2,421 ft.
Paul Miller's No. 2 Chaddick, 109 ft. N, 330 ft. E, SW cor. SE NW Sec. 32-8-10	Began Nov. 20; cmtd. 10-in. 40 ft.
C. D. Neff, tr.'s No. 2 Snell, 400 ft. E, 330 ft. N, SW cor. SE SE, Sec. 9-7-11	Began Nov. 20; cmtd. 10-in. 41 ft; drlg. 180 ft.
B. F. Neely's No. 4 Pouder, 220 ft. E, 225 ft. S, NW cor. SW SW, Sec. 15-7-11	Cmtd. 6-in. 2,335 ft; arranging to test 2,585 ft.
E. F. Neely's No. 5 Pouder, 530 ft. S, 370 ft. W, NE cor. Sec. 16-7-11	Began drlg. Nov. 9; cmtd. 10-in. 21 ft; drlg. 960 ft.
T. E. Nix's No. 1 W. M. Cooper, 104 ft. S and E, NW cor. Sec. 30-8-11	Derrick.
H. L. Patton's No. 1 Pouder, 330 ft. N and W, C. Sec. 15-7-11	Began drlg. Nov. 9; cmtd. 10-in. 21 ft; drlg. 960 ft.
Pelican Nat. Gas Co.'s No. 9 Sabine Lbr. Co., 200 ft. N and E, SW cor. NE SW, Sec. 2-7-13	W.O.S.R. 2,400 ft.
Pelican Nat. Gas Co.'s No. 2 Buckley, 330 ft. N and W, Sh cor. SW SW, Sec. 31-8-10	Cmtd. 6-in. 2,413 ft; W.O.S.R. 2,-502 ft.
Pelican Nat. Gas Co.'s No. 17 La. Long Leaf, 330 ft. S and E, NW cor. NE NW, Sec. 31-8-11	Began Nov. 14; cmtd. 10-in. 100 ft; drlg. 2,140 ft.
G. N. Pharis, Tr.'s No. 1 Cutrer, 990 ft. S, 330 ft. E, center Sec. 13-7-11	Derrick.
T. L. Phillips et al's No. 1 Haley, 330 ft. S and E, NW cor. NW SE, Sec. 6-7-13	Derrick.
Picayune Oil Co.'s No. 1 Porter, 330 ft. N and W, SE cor. NW SW Sec. 30-8-11	Began drlg. Nov. 21; cmtd. 10-in. 40 ft.
H. C. Pitts et al's No. 1 Trammell, 1,037 ft. S, 150 ft. E, NW cor. NE NE, Sec. 5-7-11	Location.
Ritchie Prod. Co.'s No. 1 Byrd, 503 ft. N, 399 ft. W, SE cor. NE NW, Sec. 1-7-11	Comp. pumping 50 bbls. 2,465 ft.
Rotary Oil Corp.'s No. 1 Hale, 330 ft. S and E, NW cor. SW Sec. 1-7-13	Derrick pattern.
W. H. Rowe et al's No. 1 Cutrer, 330 ft. N and E, SW cor. NE, Sec. 13-7-11	W.O.S.R. 2,612 ft.
C. T. Ruffin's No. 1 Lilly, 545 ft. S, 200 ft. W, NE cor. NW NW, Sec. 8-7-11	Bailing test, 1,000 ft. oil; T.D. 2,376 ft.
Scully & Beach's No. 4 Lafitte, 235 ft. E, 197 ft. S, NW cor. SW NW, Sec. 13-7-11	Derrick.
Scully & Beach's No. 5 Lafitte, 413 ft. S, 190 ft. W, NE cor. SW NW, Sec. 13-7-11	Arranging swab through tubing 150 ft. in oil; T.D. 2,492 ft.
E. M. Self's No. 2 Henderson, 335 ft. N and E, SW cor. SE SE, Sec. 31-8-10	Top marl 2,446 ft; cmtd. 6-in. 2,448 ft; bailing to test 2,450 ft.
Simmons et al's No. 1 Fleming, E½ SE SE, Sec. 11-8-13	Rigging up.
Skidmore Oil Co.'s No. 2 G. Martinez, 330 ft. S and W, NE cor. SE SE, Sec. 3-7-13	2,000 ft. oil in hole; W.O.S.R. 2,-330 ft.
Scully & Beach's No. 3 Lafitte, 1,030 ft. S, 134 ft. E, NW cor. Sec. 13-7-11	W.O.S.R. 2,492 ft.
F. E. Stancill's No. 1 Pouder, 273 ft. S, 397 ft. E, NW cor. NE SE Sec. 10-7-11	S.D. 2,593 ft.
State Prod. Co.'s No. 1 Keaszle, 150 ft. N and W, SE cor. NW SW Sec. 3-7-13	W.O.S.R. 2,427 ft.
State Prod. Co.'s No. 1 Lites, 150 ft. S and W, NE cor. SE SW Sec. 28-8-11	Derrick.
State Prod. Co.'s No. 1 Sabine Lbr. Co., 365 ft. N, 100 ft. W, SE cor. NW SW Sec. 2-7-13	S.D. 2,427 ft.
H. H. Stout et al's No. 1 Byrd, 150 ft. N and E, SW cor. NW NW Sec. 1-7-11	Drlg. chalk 2,575 ft.
The Texas Co.'s No. 5 Stille, 330 ft. N, 1,650 ft. E, SW cor. Sec. 33-8-11	Began Nov. 21; cmtd. 10-in. 40 ft; drlg. 1,000 ft.
E. M. Thomasson's No. 1 W. & H. Andries, 500 ft. N, 150 ft. W, center Sec. 32-7-11	Location.
C. H. Tuttle's No. 3 Byrd, 700 ft. E, 510 ft. S, NW cor. Sec. 7-7-10	W.O.S.R. 2,727 ft.
J. H. Watt et al's No. 1 Pouder, 200 ft. S, 135 ft. W, NE cor. NW NE Sec. 15-7-11	Derrick.
D. R. White et al's No. 1 Stille, 620 ft. W, 205 ft. N, SE cor. NE SW Sec. 35-8-13	Set 10-in. 160 ft.

Arkansas

UNION COUNTY—URBANA

Graves, Ferguson & Fuller's No. 1 Patterson, SW cor. NE NE Sec. 31-19-16	Derrick.
Wilson & Chapman's No. 2 Emily King, Sec. 5-18-13, 150 ft. S, 150 ft. E, NW cor. NE NE	S.D. 1,730 ft.

East Texas

PANOLA COUNTY

Daisy O. & G. Co.'s No. 1 Rucks, John Palmer Sur.	S.D. 3,359 ft.

Mississippi

RANKIN COUNTY

James Alexander's No. 2 Hurst, 826 ft. E, 560 ft. N, SW cor. NW NW Sec. 7-5n-2e	Began Nov. 3; drlg. 600 ft.
J. A. Matson et al's No. 1 Warner, 1,100 ft. S, 200 ft. W, NE cor. W½ SE Sec. 14-5n-1e	Waiting on csg. 2,477 ft.

Wildcat Operations in Mississippi

AMITE COUNTY

Company, well, farm name, section and block—	Remarks:
Magnolia State O. & G. Co.'s No. 1 Anderson, C NE NW Sec. 14-3n-3e	S.D. 400 ft.

CLARKE COUNTY

F. X. Gowans et al's No. 1 Elfring, SE NE Sec. 13-1n-14e	S.D. 104 ft.

HINDS COUNTY

Cleve Love's No. 2 Security Realty Co., 1,865 ft. N, 782 ft. E, SW cor. Sec. 26-6-1e	Derrick.
Love & Lancaster's No. 1 Elton Plantation, C SE Sec. 17-4n-1e	Drlg. chalk 4,032 ft.
National Gas Co. of Miss.' No. 1 M. C. Halder, 160 ft. E, 660 ft. N, SW cor. Sec. 16-6n-1e	S.D. for csg. 810 ft.

JASPER COUNTY

B. B. Jones' No. 1 Bank of Philadelphia, 660 ft. N and W, SE cor. Sec. 35-3n-12e	Set 15¾-in. 161 ft; drlg. 1,535 ft.

LAMAR COUNTY

Chas. W. Gorr et al's No. 1 Jordan, NW cor. SW Sec. 1-2n-15w	Derrick.
Stauffer & Kouri's No. 1 Bond, SE NE Sec. 18-2n-14w.	D.S. stuck 3,026 ft.

LOWNDES COUNTY

Lowndes County Oil & Dev. Co.'s No. 1 Carr est., Sec. 34-17-16e, 1,320 ft. E, 330 ft. S, NW cor. Sec.	S.D. 2,200 ft.

MONROE COUNTY

P. J. McAlpine's No. 1 Rye, Sec. 22-15s-17w	S.D. 1,777 ft.

NEWTON COUNTY

Bob Dalton's No. 1 Majure, 400 ft. N, 300 ft. E, SW cor. SE Sec. 25-4n-11e	Drlg. 2,380 ft.

RANKIN COUNTY

Home Oil Prod. Corp.'s No. 1 So. Jackson Land Co., 85 ft. S, 130 ft. W, NE cor. NW NW Sec. 23-5n-1e	S.W. and abd. 2,500 ft.
Love Pet. Co.'s No. 2 Int. Lbr. Co., 450 ft. S and E, NW cor. Sec. 28-6n-2e	T.A. 2,657 ft.
Majestic O. & G. Co.'s No. 1 Elton Lbr. Co., Sec. 10-4n-3e.	Derrick.

SCOTT COUNTY

M. U. Culley et al's No. 1 Owens, Sec. 2-8-9	S.D. 750 ft.

WEBSTER COUNTY

P. J. McAlpine's No. 1 Hensley, Sec. 15-21-11	Cored Tuscaloosa 1,800 ft; S.D.

Wildcat Operations in Alabama

LAMAR COUNTY
(Cable tools)

Company, well, farm name, section and block—	Remarks:
DeSoto O. & G. Corp.'s No. 1 Gardner, NW NW Sec. 22-15s-16w	S.D. 3,250 ft.

MOBILE COUNTY

J. C. Prine et al's No. 1 M.&O.R.R., Sec. 33-2n-4w	Drlg. 3,540 ft.

WASHINGTON COUNTY

South Ala. O. & G. Co.'s No. 1 Wilson, Sec. 26-7n-1w	S.D. chalk 2,250 ft.

SUBSCRIPTION ORDER BLANK

to

The Oil and Gas Journal

Send to.....

Occupation .....

Address .....

City ..... State.....

* * * *

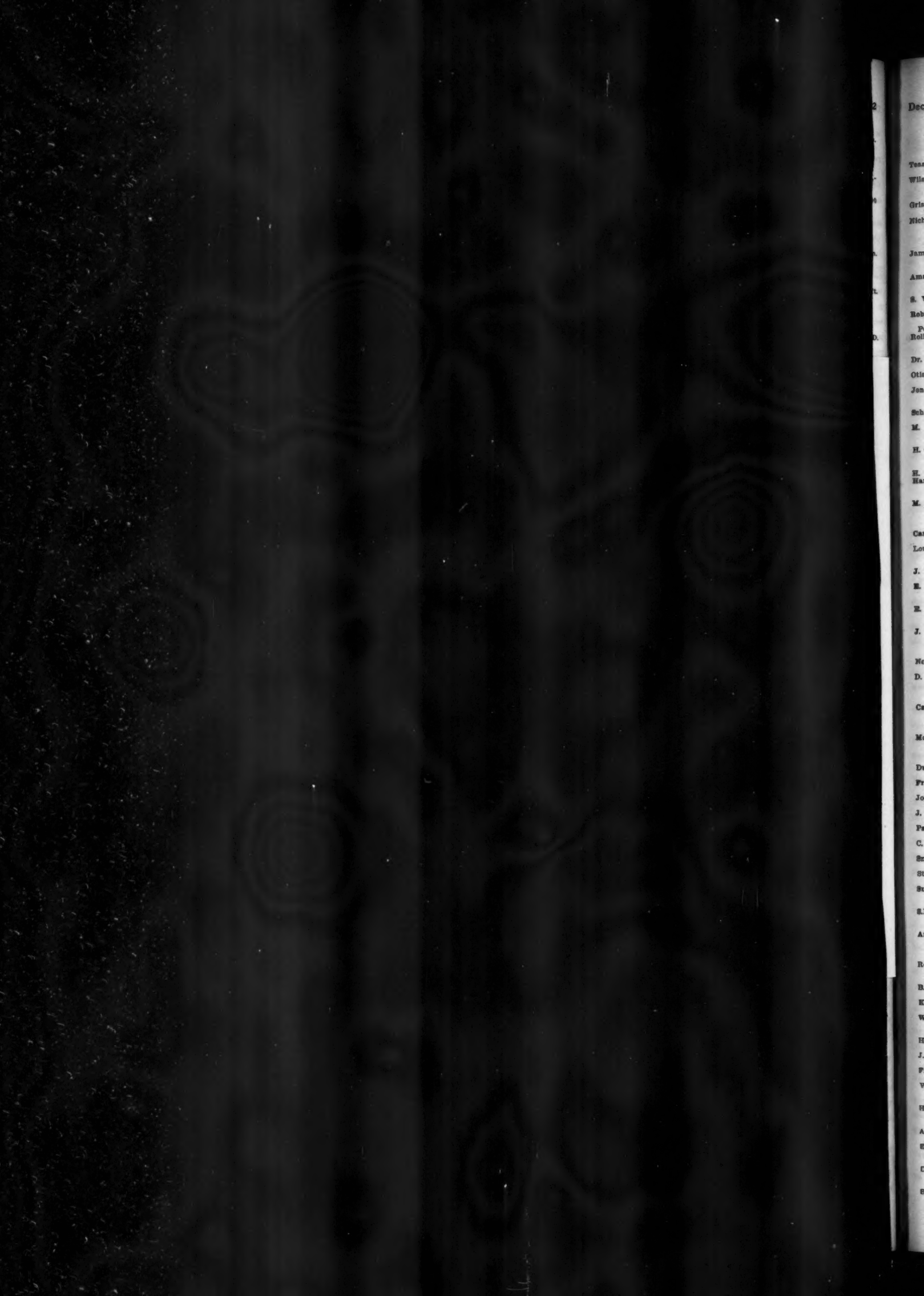
Sent by.....

Address .....

City ..... State.....

Enclosed is $.....for which please enter Christmas gift subscription to The Oil and Gas Journal for one year.

One year in U. S., $6.00; One year in Canada and foreign countries, $7.00.



Wildcat Operations in Southwest Texas

(Continued from Page 48)

Texas and Gant's No. 1 Mikulec, 330 ft. to NW and SW lines of tract in Wm. Barton Sur. ..... Derrick.
Wilson & Edwards' No. 1 Randall, 150 ft. from S and E lines of tract in Bernard Bymer Sur. ..... T.D. 2,485 ft.; drlg.

BEE COUNTY

Grisham et al's No. 1 Hill, 1½ miles SW of town of Tuleta ..... Derrick up.
Nichols & Bruner's No. 1 Grover Heidenfels in John Bryan Sur., 891 ft. from S line, 1,950 ft. from E line of tract ..... T.D. 2,678 ft.; drlg.

BELL COUNTY

James Scoggins' No. 2 Warrick, 1,000 ft. to NW line, 2,400 ft. to NE line of 335-ac. tract in Ingram Sur. .. T.D. 1,432 ft.; fishing.

BEXAR COUNTY

Amsden-Ingersoll-Miller's No. 1 Strumberg, 450 ft. to W line, 1,020 ft. to N line of tract, 12 miles SW of San Antonio ..... T.D. 1,054 ft.; standing.
B. W. Blount's No. 1-A S. A. Land & Dev. Co., 10 ft. from No. 1 in I. Perez Sur. ..... T.D. 945 ft.; moving in rotary.
Robert C. Hill's No. 1 Schell, 1,300 ft. from N line, 1,100 ft. from W line of 161-ac. tract in Sec. 234, Perretaux Sur. ..... T.D. 836 ft.; set csg.
Rollin V. Hill, Sr.'s No. 1 Max Boeck, 1,700 ft. from N line, 2,700 ft. from E line of tract in J. R. Shepherd Sur. ..... T.D. 390 ft.; drlg.
Dr. Ewell Neil's No. 1 J. Watson, 500 ft. from W line, 1,700 ft. from S line of B. Martinez Sur. ..... T.D. 2,495 ft.; in Edwards, dry.
Otis Oil Co.'s No. 1 Bachmeyer, 150 ft. from NE and SE lines of 425 acres in J. Montez Sur. ..... T.D. 600 ft.; fishing.
Jones & Voitz' No. 1 Bonkowsky, 150 ft. to N and W lines of William McMenenes Sur., 12 miles E of San Antonio ..... T.D. 907 ft.; standing.
Schneider, Rees et al's No. 3 Claussen, 13 miles NE of San Antonio ..... T.D. 1,330 ft.; S.D.
M. E. Trussell's No. 1 L. B. Carruthers, Sr., 1,000 ft. from W line, 400 ft. from most easterly N line of tract in Sam McCullough Sur. ..... T.D. 1,004 ft.; standing.
H. G. Venable's No. 2 F. Dulling, 1,500 ft. W of center of E line of tract ..... Location.

BLANCO COUNTY

H. T. McGee's No. 1 Forbes, cen. Sec. 167 ..... Rigging up.
Hardy Sitton's No. 1 Luders, 150 ft. from S line, 1,420 ft. from E line of James Stanford Sur. ..... T.D. 1,540 ft.; standing.

BROOKS COUNTY

M. P. Evans' No. 1 Amanda Perez, 1,300 ft. from N line, 300 ft. from W line of Sec. 6, La Encantada grant ..... T.D. 1,480 ft.; standing.

CALDWELL COUNTY

Cargill et al's No. 1 Dameron, 150 ft. from N and W lines of 74.5-ac. tract in Dillard Cooper Sur. ..... T.D. 2,018 ft.; bailing oil.
Louis Crouch's No. 1 Sue Neelan, 1,500 ft. to SE lines, 150 ft. from NE lines of 200-ac. tract in John B. Gray Sur. ..... Location.
J. M. Dickson's No. 1 W. T. Mooney, 7,600 ft. from NE line, 5,200 ft. from SE line of Solomon Seal Sur. ..... T.D. 2,265 ft.; set csg.
E. D. Herne's No. 1 M. C. and P. W. Jeffrey 126-ac. tract, 150 ft. from N and E lines of tract in James George Sur. ..... Set surface pipe, waiting for wtr.
E. L. Hope and Joe Cole's No. 1 M. August, 150 ft. from NE line, 165 ft. from NW line of tract in A. Floyd Sur. ..... Rigged up.
J. W. Kemp's No. 1 George Vickery, 760 ft. from SE line, 200 ft. from NE line of tract in Squire Damon Sur. ..... T.D. 2,100 ft.; plugging back to 1,750 ft.
Noack & Lanning's No. 1 Barber, 150 ft. from S and E lines of 82-ac. tract in Squire Damon Sur. ..... T.D. 2,270 ft.; drlg.
D. V. Smith (C. J. Webster Oil & Gas Co.) No. 1 McMahon, 450 ft. to SW of center of NE line of 50-ac. tract in James Pinchback Sur. ..... Derrick up.

COMAL COUNTY

Caldwell and M. Lanier's No. 1 T. J. Byler, 175 varas from W line, 370 varas from N line of 320-acre tract in H.E.&W.T. Sur., Sec. 894 ..... T.D. 931 ft.; no report.

DIMMITT COUNTY

Motes-Campbell Co.'s No. 1 Denton, 150 ft. from E line, 250 ft. from S line of Tracts 33 and 34 in Sec. 60 of Denton Colony Subd. ..... T.D. 1,400 ft.; drlg.

DUVAL COUNTY

Duggan & Smith's No. 2 Sutherland, 330 ft. from S and W lines of Sur. No. 511 ..... T.D. 2,620 ft.; drlg.
Frank Gravis' No. 2 Schallert in Sur. 255 (Palangana salt dome) ..... T.D. 1,653 ft.; standing.
John Hornbeck's No. 1 Duval County Ranch Co., 150 ft. from S and W lines of Sur. No. 281 ..... Clearing location.
J. A. Leindecker's No. 1 G. W. Sutherland, 560 ft. from S line, 450 ft. from W line of Sur. No. 183 ..... T.D. 2,250 ft.; standing.
Payne & Vernon's No. 1 A. Roach, 865 ft. from E line, 45 ft. from S line of Blk. 7, Sur. No. 457 ..... Rigged up.
C. P. Scott's No. 1 J. W. Kidd, 990 ft. from N and E lines of SE of Sur. No. 56 ..... Rigging up.
Smith & Capps' No. 1 Peters, 330 ft. from S line, 340 ft. from W line of NE of Sur. No. 178 ..... Spudded in.
Stanley Smith's No. 1 C. Pena, 330 ft. from S and W lines of Sur. No. 79 ..... Rigged up.
Sun Oil Co.'s No. 1 Duval County Ranch Co., 1,650 ft. to N and W lines of Sur. No. 75, or 330 ft. to S and W lines of E half of NW of Sur. No. 75 ..... T.D. 2,386 ft.; drlg.
S.R.C. Oil Co.'s No. 1 Duval County Ranch Co., 150 ft. from N line, 4,200 ft. from W line of Sur. 192..... T.D. 1,300 ft.; drlg.

FRIO COUNTY

Amerada Pet. Corp.'s No. 1 Halff & Oppenheimer, 1,200 ft. from N line, 200 ft. from E line of W. F. Halsel Sur. ..... T.D. 4,955 ft.; drlg.

GILLESPIE COUNTY

Rod Lagra's No. 1 Stephen, 500 ft. from N and W lines of A.B.&M. Sur. No. 969 ..... Spudded in.

GUADALUPE COUNTY

B. E. Brock's No. 1 Ogletree, 1,600 ft. from W line, 450 ft. from S line of tract in Robert Smith Sur. ..... T.D. 1,890 ft.; standing.
Keene & Russell's No. 1 Lowman, 300 ft. from E line, 350 ft. from N line of tract in George Allen Sur. .... T.D. 380 ft.; standing.
W. A. Scrutchin's No. 1 S. J. Lowman, 170 ft. from N line, 195 ft. from W line of 10-ac. tract, in Blk. 1, Sec. No. 1 of S. J. Barnes Sur. ..... Derrick.
H. A. Suttle's No. 2 Halm, 525 ft. due S of No. 1 Halm in Jos. Kent Sur. ..... T.D. 1,670 ft.; drlg.
J. T. Stover's No. 1 Paul Hoffman, 1 mile SW of Selma Pool ..... T.D. 2,108 ft.; standing.
F. W. Tong's No. 1 Henry Rahe, 650 ft. to SW lines, 1,300 ft. to NW lines, Moses Baker Sur. ..... T.D. 920 ft.; drlg.
Walton et al's No. 1 Dan Darling, 1,890 ft. from NW line, 1,198 ft. from SW line of Ben Fuqua Sur. ..... Spudded in.

GOLIAD COUNTY

Hoffman & Gooch's No. 1 Fromme, 600 ft. from N and 1,300 ft. from W line of Peter B. Dexter Sur. ..... T.D. 2,470 ft.; standing.

GONZALES COUNTY

Antibus et al's No. 1 James, 6,350 ft. from N line, 1,300 ft. from E line of Mary A. Williams Sur. ..... T.D. 1,247 ft.; coring.
Edmiston & Kirby Pet. Co.'s No. 1 J. W. Ward, Jr., 300 ft. from N line, 833 ft. from W line of tract in Dan McKay Sur. ..... T.D. 1,592 ft.; standing.
Dave Watson, trustee's No. 1 Cardwell, Byrd Lockhart Sur., 7 miles S Gonzales ..... Moving in tools.

HIDALGO COUNTY

Barrett-Kanellos' No. 1 J. B. Brock, 7 miles W and N from Mission (on Monte Cristo road) ..... T.D. 4,590 ft. S.D.
Palm City Pet. Co.'s No. 1 J. T. Lomax, 7,500 ft. from S and E lines of San Roman Sur. ..... T.D. 1,445 ft.; drlg.
Dayle L. Smith's No. 3 Daskam, SW part of county..... T.D. 1,726 ft.; S.D.

JIM HOGG COUNTY

Clark & Cowden's No. 1 W. Allen, 150 ft. to N and W lines of Sur. 49 ..... T.D. 2,395 ft.; in sand.
Cole Pet. Co.'s No. 1 W. Allen, 990 ft. to E line, 1,320 ft. to N line of Blk. 13, Randado grant ..... Spudded in.
D. C. DeWitt's No. 1 Gomez, 1,110 ft. from N line, 150 ft. from W line of Sur. No. 12, SW part of county T.D. 2,265 ft.; standing.

JIM WELLS COUNTY

Humble Oil & Ref. Co.'s No. 1 Fuhrkin, 1,117 ft. from N line, 450 ft. from W line of 150.77-ac. tract in Phillips Sacks Sur. ..... Rigging up.
F. A. Lain's No. 1 Vernon Porter, 800 ft. from S line, 400 ft. from W line of 200-ac. tract in Sur. 25 ..... T.D. 3,500 ft.; standing.

KARNES COUNTY

A. B. Edmiston's No. 1 G. W. Cross, 500 ft. from E line, 150 ft. from N line of tract in M. N. Reed Sur. ..... Moving in rig.
H. J. Porter et al's No. 1 Ingram, 276-ac., 1,500 ft. from E line, 300 ft. from S line of tract in Carolos Martines Sur. ..... T.D. 3,050 ft.; drlg.
Tippett & Mull's No. 1 Smith, 8,500 ft. from N line, 300 ft. from E line of Francis Haskins Sur., 3½ miles E of Helena ..... Rigging up.

KERR COUNTY

Eastland Oil Co.'s No. 1-C Jeff Love, 150 ft. from S and E lines of C.C.S.D.&R.G.N.G. Sur. No. 1,595 ..... T.D. 1,150 ft.; drlg. first carried as Evans et al's No. 1 Love.
Evans & Gant's No. 1 Estelle Young, 150 ft. out of NW cor. of Sec. 28, E. A. Burge Sur. ..... T.D. 1,310 ft.; standing.
Van Duyn & Moore's No. 1 Nowlin, 2,000 ft. from E line, 2,200 ft. from N line of James R. Bettner Sur... T.D. 350 ft.; drlg.
Verde Oil & Gas Co.'s No. 1 J. D. Witt, 1,320 ft. from N line, 1,320 ft. from W line of Sec. 1,923 in Hamilton Sur. ..... T.D. 118 ft.; standing.

KLEBERG COUNTY

Harris et al's No. 1 Dennett, 600 ft. from S line, 760 ft. from E line of Blk. 7, Sec. 38, Kleberg Town & Imp. Co. Subd. ..... T.D. 160 ft.; standing.
H. Carter's No. 1 R. H. Simmons, 150 ft. from S and W lines of tract in Sec. 7, King Sur. No. 8 ..... T.D. 3,205 ft.; standing.

LA SALLE COUNTY

Interstate Oil Industries, Inc.'s No. 1 J. F. Mayes, 600 ft. from S and W lines of Blk. 20, I.&G.N. Sur. No. 19 ..... T.D. 2,825 ft.; drlg.

LIVE OAK COUNTY

J. A. Harper's No. 1 fee, 2,130 ft. to N line, 510 ft. to E line of farm, J. Pointevant Sur. 37 ..... T.D. 1,100 ft.; waiting for csg.
C. J. Webster Oil & Gas Co.'s No. 1 O. F. Akers, 300-ac. tract in T. Henry Sur. ..... T.D. 100 ft.; standing.

LEE COUNTY

Paton Bros.' No. 2 Turner, 150 ft. due SE of No. 1-A Turner, junked at 5,675 ft. in the David Hudson Sur., 3 miles SE from Tanglewood ..... Location.

MAVERICK COUNTY

Kivagi Oil Co.'s No. 1, 2½ miles N of Eagle Pass ..... Location.

McMULLEN COUNTY

Jaqua & Crow's No. 1 Hagist, 330 ft. from N and W lines of R. W. Mills Sur. No. 467 ..... Spudded in.
C. C. Shumway's No. 1 Shiner, 400 ft. from W line, 200 ft. from N line of Blk. 45 of Shumway Subd. of Shiner ranch ..... T.D. 200 ft.; drlg.
Skinner & Bailey's No. 1 Burmeister in SW cor. of Sec. 14, Blk. 1, C.H.&H. Ry. Sur. ..... T.D. 820 ft.; S.D.

MEDINA COUNTY

James E. Greenlee's No. 1 Feasler, 600 ft. from N line and 2,400 ft. from E line of L. G. Harrison Sur. No. 799 ..... T.D. 1,230 ft.; set csg.
F. Ryal's No. 1 G. Martin, 150 ft. from S and W lines of Blk. 368, H. Castro Sur. ..... Spudded in and S.D.
W. L. Umburn's No. 4 Jungman, 150 ft. from N line, 450 ft. from E line of tract in N. B. Rogers Sur., No. 32 ..... T.D. 816 ft.; set csg.

MILAM COUNTY

Bridwell's No. 1 Terry, 1,100 ft. from N line, 800 ft. from W line of tract in Jose Leal Sur. ..... T.D. 2,370 ft.; S.D.
Ed Clark's No. 1 Pritchard, 1,100 ft. to SE lines, 700 ft. to NE lines of 163-ac. tract in F. Ernst Sur., 6½ miles NE Thorndale ..... Rigged up.
Glass et al's No. 1 Ellison, 700 ft. from N line, 1,350 ft. from W line of 200-ac. tract in Samuel Frost Sur.... T.D. 1,665 ft.; S.D.
Michalk & Clark's No. 1 Johnson, 40 ft. S of No. 1 Johnson on 100-ac. lease in Juan Jose Acosta Sur..... T.D. 2,216 ft.; flowing sulphur water.

NUECES COUNTY

Gulf Port Oil Co.'s No. 1 Luby, 2,044 ft. from E line, 2,142 ft. from S line of John M. Luby, 531.74 acres, Blk. 1 of Mary J. Luby Share 1-G of Anna Collins Petronilla pasture, 24 miles SW from Corpus Christi.. T.D. 4,750 ft.; drlg.
Miller et al's No. 1 Harney, 200 ft. from NW line, 1,850 ft. from SW line of 445-ac. tract in Gregoria Farias Sur. ..... Moving in tools.
George Noble's No. 1 Homeland Syndicate, 300 ft. to SE and SW lines of Blk. 8, Sec. 12, 5 miles S Corpus Christi ..... Location.

SAN PATRICIO COUNTY

Chiltipin Oil & Gas Co.'s No. 1 E. H. Welder, 1,750 ft. from N line, 660 ft. from W line of tract in Blk. 5, Portillee Sur. ..... T.D. 5,270 ft.; drlg.

STARR COUNTY

Adams & Modest's No. 1 Wood, 2,070 ft. from W line of Porcion 84, Camargo, and 1,472 ft. N of Missouri Pacific Railroad ..... Spudded in.
W. P. Chancellor's No. 1 A. Guerra, 26,000 ft. from S line, 2,600 ft. from E line of Share 6, of San Jose grant ..... T.D. 600 ft.; drlg.
Hartshorn et al's No. 1 Hinijosa, 835 ft. W of Hebbronville road and 2,500 ft. from S line of Porcion 110.... Location.
B.&B. Oil Co.'s No. 1 Crown Brick & Tile Co., 1,800 ft. S of State Highway No. 4 and 580 ft. from W line of Porcion 87, near La Puerta ..... T.D. 2,999 ft.; showing oil.
D. H. Carpenter's No. 1 Salinas, 2,087 ft. from N line, 1,221 ft. from E line of Share 85 of partition of Porcions 38, 39, 40 in Jurisdiction of Reynosa ..... T.D. 2,100 ft.; drlg.
Coastal O. & G. Co.'s No. 1 Kelsey Bass, 445 ft. to N line, 150 ft. to W line of Tract 52, Sur. 2, Porcion 86.. T.D. 1,860 ft.; changing to heavier rig.
W. T. Gilman & Travelers Oil Co.'s No. 1 C. Ramos, 1,170 ft. from SW line, 1,470 ft. from NW lines of Sur. No. 150 ..... Spudded in and S.D.
Great Plains Oil Co.'s No. 1 Sanchez, 660 ft. from W line, 330 ft. from S line of SE of NW of Sur. No. 344 ..... Spudded in.
Jeffries and Lambeth Drilling Co.'s No. 1 Starr County Cattle Co., 11,572 ft. from N line, 2,490 ft. from E line of Porcion 89, Jurisdiction of Camargo ..... T.D. 1,287 ft.; drlg.
Boyd C. Jones' No. 1 Garza, 2,407 ft. from N and E lines of Share 26, Part. of Porcions 67-72, Jurisdiction of Mier ..... Rigging up.
LaJoya Oil & Gas Co., in Porcion 29, NE part of county.. Location.
A. C. McGahhey's No. 1 Fernandes Bros., 1,800 ft. from W line, three-quarters of a mile from Rio Grande River, in Porcion 99, Jurisdiction of Camargo ..... Location.
D. A. Miller's No. 1 Madrigal, 4,827 ft. to N line, 1,987 ft. to E line of Share 15, Porcions 67, 72, 1 mile NE of Roma ..... T.D. 105 ft.; drlg.
John Pope, trustee's No. 2 H. Gonzales, 150 ft. W of cen. of E line of Sur. No. 339 ..... Spudded in.
J. W. Seaward's No. 1 F. Dawson, 495 ft. from W line, 240 ft. from S line of tract in Blk. 6, Share 3-B of Porcion No. 70 ..... Location.

George Stobaugh's No. 1 Seabury et al, 150 ft. from S and W lines of Porcion 107 ..... T.D. 278 ft.; no report.

TRAVIS COUNTY

E. A. Field's No. 1 B. H. Bloor, 150 ft. from S line, 500 ft. from W line of 400-ac. tract in NE part of county ..... T.D. 1,003 ft.; drlg.

Franklin et al's No. 1 Reimer, 1,300 ft. from SE line, 1,400 ft. from most southerly SW line of Sur. 35 ..... Spudded in.

Fritz Fuch's No. 1 Swedish, 2,250 ft. from NE line, 750 ft. from NW line of Thomas Smith Sur. ..... T.D. 2,065 ft.; S.D.

UVALDE COUNTY

J. V. Scoggin's No. 1 Olive Henry, 1,100 ft. from N and E lines of tract in Hugh Kilgore Sur. ..... T.D. 510 ft.; drlg.

WEBB COUNTY

J. W. Edwards' No. 1 M. D. Slator, 1,320 ft. to NE and NW lines of Blk. 72, Slator Subd. of J. V. Borrego grant ..... T.D. 800 ft.; drlg.

WILLIAMSON COUNTY

McLean et al's No. 2 R. C. Miller, 300 ft. to S line, 100 ft. to W line of tract in B. Manlove Sur. ..... T.D. 1,180 ft.; S.D.

ZAPATA COUNTY

J. W. Brower's No. 1 Uribe, 150 ft. from NW and SW lines of Blk. 8, Share 7, Partition 6 of San Ignacio Subd. of Borrego grant ..... T.D. 1,150 ft.; drlg.

Donohoe et al's No. 1-A Garcia, 150 ft. from NE and SE lines of Blk. 7 of Subd. of 700-ac. of Share A, Charco Redondo grant ..... T.D. 1,085 ft.; standing.

Hamilton, Brower & Crew's No. 1 Slator, 2,111 feet from SW line, 1,980 ft. from SE line of Blk. 1, Subd. of Slator ranch in J. V. Borrego grant ..... Location.

Huff & Fudge's No. 1 Uribe, 150 ft. from NW and SW lines of Blk. 8, Share 7, Partition 6, San Ignacio Subd. of Borrego grant ..... T.D. 725 ft.; coring.

Phelps, Taegel & Leyendecker's No. 1 Martinez, 150 ft. to N and W lines of Blk. 15 of S. T. Phelps, Jr. Subd. "A" of Villa grant ..... T.D. 800 ft.; drlg.

H. L. Sargent et al's No. 1 Antonio Gutierres heirs, 922 ft. from W line, 473 ft. from S line of Tract 2, Blk. 5, Nixon Subd., Porcion 10, San Ignacio Borrego grant ..... T.D. 1,485 ft.; drlg.

ZAVALA COUNTY

Adair & Daniel's No. 1 Gates, 1,320 ft. from N line, 1,320 ft. from E line of Hooper & Wade Sur. No. 13 .. T.D. 3,242 ft; drlg.

Southwest Texas Proven Areas

Week Ending November 26

NORMANNA POOL—BEE COUNTY

Company, well, farm name, section and block— Remarks:

Gulf Coast Oil Co.'s No. 5 Hicks, 600 ft. E of Nichols Oil Co.'s No. 2 Hicks ..... T.D. 3,622 ft.; setting csg.

PETTUS FIELD—BEE COUNTY

J. L. Mauldin's No. 2 fee, 945 ft. to S line, 150 ft. to W line of farm, George A. Kerr Sur. ..... T.D. 3,880 ft.; set csg.

United Prod. Co.'s No. 44 Ray, south offset to Gulf Coast Oil Co.'s No. 3 McKinney ..... T.D. 3,681 ft.; comp. 40 bbls. day.

TULETA POOL—BEE COUNTY

C.R.&M. and O'Neill's No. 1 Stoltzfus, 150 ft. from N and W lines of SE of SE of Sec. 2, Ragsley Subd. of Chittim ranch in J. M. Uranga grant ..... Moving in.

Dirks Bros.' No. 1 fee, 165 ft. to S and E lines, Sec. 3, Ragsley Subd., Uranga grant ..... T.D. 4,302 ft.; flowing 400 bbls. through 5/16 in. choke.

Tabor et al's No. 1 Harris, 150 ft. from N and W lines of Blk. 13, Sec. 13, Ragsley Subd. of Uranga grant .. T.D. 4,119 ft.; testing.

The Texas Company's No. 2 Cox, 250 ft. from S and W lines of SE of SW of SW of Sec. 2, Ragsley Subd. of Uranga tract ..... Location.

Wallace and Bowles' No. 1 Harris, 150 ft. from N line, 250 ft. from E line of Lot 12, Sec. 13 of Ragsley's Subd. of Uranga grant ..... T.D. 4,198 ft.; testing.

GAS RIDGE—BEXAR COUNTY

American Gas Co.'s No. 5 W. H. Kennon, 1,750 ft. from S line, 2,900 ft. from E line of 400-acre tract in Maria F. Rodrigues Sur. ..... T.D. 2,230 ft.; standing.

ECKERT POOL—BEXAR COUNTY

Alamo Nat. Gas Co.'s No. 3 J. H. Gembler, 150 ft. from N and E lines of tract in A. Manachaca Sur. 51. T.D. 1,216 ft.; standing.

E. M. Carl's No. 1 F. Gembler, 160 ft. from N line, 750 ft. from E line of tract in J. Montes Sur. ..... T.D. 825 ft.; standing.

F. H. Eckert & Son's No. 2 Boehner, 800 ft. from N line, 210 ft. from E line of 93-ac. tract in Boquar Sur. ..... Location.

Gatlin Oil Co.'s No. 15 I. A. Beck, 150 ft. from S and E lines of tract in J. Montes Sur. ..... Location.

Johnson Bros.' No. 1 Elsie Janszen, 150 ft. from SW line, 4,000 ft. from SE line of 139-ac. tract in J. Montes Sur. ..... T.D. 300 ft.; drlg.

W. R. Swearingen's No. 11 Halbardier, 400 ft. SE of No. 10 Halbardier, J. P. Perez Sur. ..... Location.

DUNLAP POOL—CALDWELL COUNTY

Bob Rose's No. 2-B Walker 40-ac. tract, 360 ft. from NW line, 500 ft. from SW line of tract in Solomon Seal Sur. ..... T.D. 2,255 ft.; standing.

SALT FLATS—CALDWELL COUNTY

Hickman et al's No. 1 C. A. Dickerson, 150 ft. N of cen. of S line of tract in John D. Rains Sur. ..... T.D. 2,172 ft.; standing.

NORTH GOVERNMENT WELLS—DUVAL COUNTY

R. B. Byrd's No. 3 Wright, 660 ft. from W line, 330 ft. from N line of Sur. No. 101 ..... Location.

W. T. Daniels' No. 1 F. J. Smith, 300 ft. from N and W lines of SW of NE of Sur. No. 46 ..... Location.

Highland Oil Co.'s No. 3 Lundvall, 330 ft. to N and W lines of S half of NE of Sur. 42 ..... T.D. 2,261 ft.; comp. 50 bbls.

Luse & Russ' No. 2 Hahl, 990 ft. from W line, 330 ft. from N line of SE of Sur. No. 45 ..... T.D. 1,000 ft.; drlg.

Magnolia Pet. Co.'s No. 2 A. A. Brodbeck, 330 ft. to S and W lines of W half of NW of NE of Sur. 44 .... T.D. 2,308 ft.; comp. 30 bbls. hr.

Magnolia Pet. Co.'s No. 5 Johnson, 420 ft. from S line, 330 ft. from W line of NW of SE of Sur. No. 44 .... Location.

Magnolia Pet. Co.'s No. 1 J. W. Riley, 330 ft. from S and E lines of SE of NW of Sur. No. 45 ..... Drilling.

San Diego Oil Corp.'s No. 5 E. Riley, 330 ft. from S and W lines of NW NW of Sur. No. 46 ..... Location.

San Diego Oil Corp.'s No. 2 L. Bennett, 500 ft. N of No. 1, 250 ft. to W line of SE SW of Sur. No. 44.. Spudded in.

San Diego Oil Corp.'s No. 4 E. Riley, 330 ft. from N line, 550 ft. from W line of NW NW of Sur. No. 46.. Rigging up.

Seacord & Putnam's No. 1 Hahl, 330 ft. from S and W lines of N half of NE of Sur. No. 42 ..... Rigging up.

Seacord & Putnam's No. 1 Lundell, 330 ft. from E line, 1,650 ft. from S line of Sur. No. 60 ..... Derrick.

Southwest Drlg. Co.'s No. 4 R. Wendt, 330 ft. from N and E lines of SE SE of Sur. No. 43 ..... Location.

Southwest Drlg. Co.'s No. 6 Wendt, 330 ft. from S and E lines of NE of SE of Sur. No. 43 ..... T.D. 2,302 ft.; 25 bbls. hr.

The Texas Co.'s No. 1 C. W. Freer, 150 ft. from S and E lines of SE NE of Sur. No. 45 ..... Location.

The Texas Co.'s No. 1 H. Wendt, 990 ft. from N line, 330 ft. from E line of NW of Sur. No. 42 ..... Location.

Whitehead, Trenchard and French Oil Co.'s No. 2 Hahl, 620 ft. from S line, 250 ft. from E line of SW of SW of Sur. No. 44 ..... T.D. 2,327 ft.; comp. 20 bbls. hr.

Whitehead et al's No. 5 C. W. Hahl, 330 ft. from N and W lines of SW or SW of Sur. No. 44 ..... Location.

SOUTH GOVERNMENT WELLS FIELD—DUVAL COUNTY

Humble Oil & Refining Co.'s No. 9 Paul White, 1,320 ft. to W line, 4,950 ft. to S line, Sur. 59 ..... Location.

SARNOSA FIELD—DUVAL COUNTY

Sarnosa Oil Corp.'s No. 3 Well, 120 ft. SE and 660 ft. NE of No. 2 in Sur. No. 130 ..... T.D. 2,400 ft.; comp. 100 bbls. day.

Sarnosa Oil Corp.'s No. 4 Well, 330 ft. NW and 660 ft. NE of No. 3 in Sur. No. 130 ..... Rigging up.

Smith & Capps No. 3-A Duval County Ranch Co., 537 ft. from SE line, 330 ft. from NE line of W quarter of Sur. 574 ..... T.D. 1,320 ft.; drlg.

Sun Oil Co.'s No. 2 Cuellar (Cany), 150 ft. from SW and SE lines of E quarter of Sur. No. 576 ..... Rigged up.

SAL-MAR FIELD—GUADALUPE COUNTY

Sal-Mar Oil & Gas Co.'s No. 1 Hempel, 1,600 ft. from S line, 150 ft. from E line of tract in G. W. Williams Sur. ..... T.D. 2,318 ft.; standing.

A .W. Wormser's No. 1 Harris, 150 ft. from N line of tract and 150 ft. E of creek in Green Dewitt Sur..... Derrick.

HORD'S CREEK—GOLIAD COUNTY

Sam Vanderweiss' No. 1 Kaufman, 2,700 ft. NE of NE line of B. Merrill Sur., 300 ft. NW of NW line of Vincente Ramos Sur. ..... Location.

ALWORTH FIELD—JIM HOGG COUNTY

H. C. Cate's No. 1 B. J. Leyendecker, 70 ft. to E line, 320 ft. to S line, Blk. 10, Sur. 143 ..... T.D. 990 ft.; drlg.

SANDIA POOL—JIM WELLS COUNTY

Crude Oil Royalty Co.'s No. 1 Allen (first carried as Hughes & Long's No. 1 Wade), Cen. Blk. 2, Wade ranch. ..... Spudded in; changing rigs.

Larcro Gas & Pet. Co.'s No. 3 Wade, 2,000 ft. S, 33 deg. W of No. 2 Wade, thence 1,970 ft. N, 57 deg. W.... Material on ground.

JACOB POOL—McMULLEN COUNTY

Jacob, Buzzini & Pickett's No. 8-A Jacob, 660 ft. N of No. 2-A Jacob ..... T.D. 967 ft.; drlg. in.

Jacob, Buzzini & Pickett's No. 10-A Jacob 2,540 ft. S of No. 2-A and 843 ft. from E line of Sur. No. 8 .... Location.

WENTZ POOL—McMULLEN COUNTY

V. G. Schimmel's No. 1 Wolfe, 400 ft. from E line, 360 ft. from N line of Sur. 65 ..... T.D. 1,000 ft; drlg. showing gas

ADAMS FIELD—MEDINA COUNTY

Vantis Oil Co.'s No. 1-A Adams, 50 ft. from No. 1 ..... T.D. 200 ft.; drlg

SAXET FIELD—NUECES COUNTY

Capps and Smith's No. 1 Hutchins, 330 ft. from S and E lines of 40-ac. tract in George Frank Sur. No. 416.. Set surface csg.

Houston Oil Co.'s No. 1 Walton, 170 ft. from N line, 220 ft. from E line of 500-ac. tract ..... T.D. 4,915 ft.; drlg.

Gibson Oil Co.'s No. 1 Ran Morgan, 330 ft. from S and E lines of E 80 acres of Ran Morgan's 320 acres in B.S.&F. Sur. No. 405 ..... T.D. 4,305 ft.; drlg.

Gulf Coast Oil Co.'s No. 2 Bessie Elder, 300 ft. to S and E lines of Lot 29, Shepard Subd. of John Dunn Sur. No. 312 ..... T.D. 4,564 ft.; comp. 100 bbls. day.

Gulf Port Oil Co.'s No. 1 Isencee, 330 ft. to N and W lines of 300-ac. tract in C. Land Sur. ..... Location.

Gulf Port Oil Co.'s No. 3 Frank Bliss, 1,639 ft. to N line, 350 ft. to E line of 225-ac. tract in J. W. Stevens Sur. No. 406 ..... Location.

Gulf Port Oil Co.'s No. 2 Isencee, 330 ft. from N and E lines of 225-ac. tract in Charles Land Sur. No. 404. T.D. 1,280 ft.; drlg.

Saxet Oil Co.'s No. 9 Dunn, 150 ft. from N line, 164 ft. from W line of lease, south offset to Oso Drillers' No. 2 Roark ..... TD. 4,081 ft.; set csg. after testing 9 fourbles oil.

O. R. Seagraves' No. 1 Lagasse, 330 ft. from N and W lines of Blk. 23, of H. B. Shepherd farm lots..... T.D. 3,140 ft.; wild and on fire.

Titus & Calloway's No. 1 Lagasse, 2,200 ft. from N line, 2,400 ft. from E line of J. M. Stevens Sur. No. 406 T.D. 4,433 ft.; coring.

Titus & Calloway's No. 2 Lagasse, 950 ft. from N line, 400 ft. from E line of J. M. Stevens Sur. No. 406.. T.D. 4,208 ft.; drlg.

Titus & Calloway's No. 3 Lagasse, 330 ft. from N and W lines of E half of Blk. 25 of Shepherd farm lots.. Derrick.

Titus & Calloway's No. 1 Hutchins, 500 ft. from N line, 1,500 ft. from W line of Blk. 19, Shepherd farm lots.. T.D. 3,785 ft.; drlg.

Titus & Calloway's No. 1 Ran Morgan, 330 ft. from N and E lines of W 80 acres of E 160 acres of N half of 423 acres of B.S.&F. Sur. No. 403 ..... Derrick.

LOS OLMOS POOL—STARR COUNTY

Austin et al's No. 1 Kelsey Bass, 150 ft. to N and W lines of NW of NW of Sur. 4, Porcions 75, 76, 77, Jurisdiction of Camargo ..... Rigging up.

V. V. Combs' No. 1 Kelsey Bass, 150 ft. from N and W lines of NE NE of Sec. 6, Porcions 75, 76 and 77.... Location abnd.

Goodwin & Yantis' No. 1 Kelsey Bass, 150 ft. to S and E lines of SE of NW of Sur. 3, Porcions 75, 76, 77. ..Location.

J. E. Harper & Co.'s No. 1 B. Salinas, 150 ft. to S and E lines of 40-ac. tract in Share 16, Por. 75 ..... T.D. 100 ft.; standing.

Hornaday-Porter's No. 1 Kelsey Bass, 150 ft. from S and W lines of NW NE Sec. 7 of Subd. of Porcions 75, 76, 77, Jurisdiction of Camargo ..... T.D. 458 ft.; set csg.

Keck & Keane's No. 2 Kelsey Bass, 150 ft. from N and W lines of NE NE Sec. 6 of Subd. of Porcions 75, 76, 77, Jurisdiction of Camargo ..... Location.

R. McCormick's No. 1 Kelsey Bass, 150 ft. from N line, 300 ft. from E line of SE of SW of Sur. 7, Porcions 75, 76, 77, Camargo ..... T.D. 200 ft.; drlg.

R. A. Mitchell's No. 1 Kelsey Bass, 150 ft. from S and W lines of NW SE of Sur. 8, Subd. Porcions 75, 76, 77, Jurisdiction of Camargo ..... T.D. 212 ft.; standing.

J. P. Moore and C. B. Van Matre's No. 1 Seabury et al, 150 ft. from E line, 750 ft. from S line of Share 5, Subd. of W part of Porcion 75 ..... T.D. 395 ft.; standing.

Munday Bros.' No. 1 Seabury, 640 ft. from E line, 4,550 ft. from S line of Share 5, Subd. of W two-thirds of Porcion 75, Jurisdiction of Camargo ..... Rigging up.

C. L. Sinclair's No. 2 Kelsey Bass, 150 ft. to S line, 1,050 ft. to W line of SW of SW of Sur. 5, Porcions 75, 76, 77 ..... T.D. 434 ft.; showing oil.

Tarver & Nance's No. 7 Kelsey Bass, 150 ft. from N and W lines of SW of SE of Sur. 7, Porcions 75, 76 and 77 ..... T.D 564 ft; flowing 100 bbls. day

Tollen, Floyd & Warner's No. 1 Seabury, 450 ft. from S line, 814 ft. from E line of 80-ac. tract in Share 5, W part of Porcion 75 ..... T.D. 389 ft.; set csg.

Sinclair et al's No. 2 Kelsey Bass, 150 ft. from S line, 450 ft. from E line of SW of SW of Sec. 5, Porcions 75, 76, 77, Camargo ..... Location.

Wells et al's No. 1 Lensgraf, 150 ft. from N and E lines of SW of SW of Sur. 7, Porcions 75, 76, 77, Camargo ..... Location.

RIO GRANDE CITY POOL—STARR COUNTY

Mundy and others' No. 1 Salines, 190 ft. to S and W lines of Blk. 12, Share C-33, Porcions 80 and 81, Camargo ..... T.D. 1,460 ft.; standing.

Sioux Oil Corp.'s No. 1 Doyne, 478 ft. from W line, 559 ft. from S line of Blk. 4, Share 77-A of Porcions 79, 80, 81, Camargo ..... Location.

LAUREL POOL—WEBB COUNTY

Dyck Oil Co.'s No. 1 Garcia Villareal, 662 ft. from E line, 150 ft. from N line of NE of NW of Sur. No. 1,100 ..... Location.

Hamill & Hamill's No. 1 Sarah Lloyd et al, 150 ft. from S and E lines of SE of SW of Sur. No. 23 ..... T.D. 2,361 ft.; abnd.

Montex Oil Co.'s No. 1 B. Rosenberg, 150 ft. to S and W lines of Blk. 5, Sur. 271 ..... T.D. 2,240 ft.; set csg.

Newton Drilling Co.'s No. 1 A. Garcia, 2,550 ft. from S line, 2,340 ft. from W line of Sur. 52, 2 miles SW of Carolina Texas Field ..... T.D. 2,080 ft.; drlg., shows oil.

Sal-Mar Oil Corp.'s No. 1 Vela, 660 ft. from NW and SW lines of Blk. 16, Sur. No. 1,011 ..... Location.

South Texas Oil Co.'s No. 2 State of Texas, 644 ft. from N line, 150 ft. from W line of Blk. 10, Sur. No. 270.. T.D. 2,260 ft.; set csg.

South Texas Oil Co.'s No. 3 State of Texas (Laurel), 450 ft. from W line, 374 ft. from N line, Blk. 10, Sur. No. 270 ..... T.D. 800 ft.; drlg.

CAROLINA-TEXAS POOL—WEBB COUNTY

Foster Barnsley's No. 2-F Webster, 165 ft. from N and E lines of SE of NW of Sur. No. 684 ..... T.D. 2,538 ft.; rigging up to deepen.

SCHOTT POOL—WEBB COUNTY

O. W. Killam's No. 1 W. Breckenridge, on line between Blks. 9 and 11 and 480 ft. from E line of Blks. 9 and 11 in Sur. No. 771 ..... T.D. 1,410 ft.; drlg.

ESCOBAS POOL—ZAPATA COUNTY

Allied Oil & Gas Co.'s No. 12 Gutierres, 3,663 ft. from SE lines, 750 ft. from NE lines of Share 4, Comitas grant ..... T.D. 100 ft.; standing.

John Ward's No. 1 M. Garza estate, 150 ft. from NW and NE lines of Blk. 31, Douglas Subd. of Zorro ranch, Comitas grant ..... Location.

The Texas Co.'s No. 15 Measles, 18,862 ft. from SW line 2,948 ft. from SE line of Cerrito Blanco grant ..... T.D. 1,240 ft.; comp. 60 bbls.

MARTINEZ POOL—ZAPATA COUNTY

H. Muckelroy, Jr.'s No. 1 A. Trevino, 150 ft. from S and E lines of Blk. 10, Sur. No. 411 ..... T.D. 2,370 ft.; drlg.

MIRANDO VALLEY POOL—ZAPATA COUNTY

Newton et al's No. 1 Flores, Sur. 249 ..... T.D. 900 ft.; drlg.

Gulf Coast Fields and Wildcats

(Continued from Page 53)

Sun Oil Co.'s No. 15 J. Wilburn, Wm. Hodges Sur., 343 ft. from N line and 420 ft. from W line lease..... Derrick.

The Texas Company's No. 4 Wilburn (W.O.), Henry Griffith League, 70 ft. from N line and 330 ft. from E line of tract ..... Pulling tubing 5,311 ft.

The Texas Company's No. 9 Wilburn, Henry Griffith League, 580 ft. E of NW cor. and 50 ft. S of N line ..... Spudded.

Texas Gulf Prod. Co.'s No. 4 Ilfrey, Henry Griffith League, 894 ft. from E line in C of tract ..... Sand 3,992-4,014 ft.; 9⅝-in. csg. 3,988 ft.

Texas Gulf Prod. Co.'s No. 11-A Kirby, Henry Griffith League, 1,090 ft. from W line and 235 ft. from S line of "A" lease ..... Cored sand showing oil 5,905-09 ft.

Texas Gulf Prod. Co.'s No. 12-H Kirby, Henry Griffith League, 429 ft. W of No. 8-H and 65 ft. N of S line ..... Rig.

Texas Gulf Prod. Co.'s No. 2 T. H. McLean, Henry Griffith League, 711 ft. from E line midway between C. Barber and McLean tracts on separating line ..... Heaving shale 5,315 ft.; plugged to 3,430 ft.; drlg. cmt. 3,907 ft.

Texas Gulf Prod. Co.'s No. 3 Tarbutton, Henry Griffith League, 746 ft. from E line in C of tract ..... Salt 1,379 ft.; cmtd. to 1,181 ft.; fishing bit.

Texas Gulf Prod. Co.'s No. 2 O. K. Winfrey, W. D. Smith Sur., 295 ft. N of SW cor. of A. E. Barber lease and 100 ft. W of E line of Winfrey lease ..... Drlg. rock 5,594 ft.

Yount Lee Oil Co.'s No. 4-A Zadie Fisher, Wm. Bloodgood Sur., 301 ft. from W line and 96 ft. from S line of tract ..... Hard sand 6,643 ft.; D.P. stuck; shot pipe 5,645 ft.; milling 5,575 ft.

LOST LAKE—CHAMBERS COUNTY

Pure Oil Co.'s No. 16 Mayes, E. H. R. Wallis Sur. 1,425 ft. N and 1,429 ft. E of No. 1 Lost River ..... Drlg. sticky shale 4,453 ft.

ORCHARD—FORT BEND COUNTY

Gulf Prod. Co.'s No. 34 Moore, Mark Smith Sur. .... Drlg. sticky shale 4,204 ft.

RABBS RIDGE—FORT BEND COUNTY

Gulf Prod. Co.'s No. 1 Edwards & Riggins, Samuel Kennedy Sur., 466.5 ft. E and 466.5 ft. N of SW cor. of SE 20-acre unit ..... Comp. estimated 1,400 bbls. daily 5,271 ft.

Gulf Prod. Co.'s No. 2 Edwards & Riggins, Samuel Kennedy Sur. ..... Rig.

Humble O. & R. Co. and Gulf Prod. Co.'s No. 5 Meyers, J. Rabb Sur., 1,000 ft. W and 250 ft. N of SE cor. of Meyers 185-acre tract ..... Drlg. shale 3,288 ft.

Humble Oil & Ref. Co. and Gulf Prod. Co.'s No. 7-A F. I. Booth, Samuel Kennedy Sur. ..... Drlg. sandy shale 5,068 ft.

Humble O. & R. Co. and Gulf Prod. Co.'s No. 8-A F. I. Booth, Samuel Kennedy Sur. ..... Drlg. gumbo and lime 1,545 ft.

Humble Oil & Ref. Co.'s No. 9-A F. I. Booth, Samuel Kennedy Sur. ..... Derrick.

Humble Oil & Ref. Co. and Gulf Prod. Co.'s No. 3 Davis, Robt. Peebles Sur., 2,985 ft. from W line and 350 ft. from N line ..... Shale 6,829 ft.; D.S. stuck; abd.

Humble Oil & Ref. Co. and Gulf Prod. Co.'s No. 3-A George, J. Rabb Sur., 1,000 ft. from W line and 350 ft. from S line of tract ..... Spudded.

Humble Oil & Ref. Co. and Gulf Prod. Co.'s No. 4-A George, J. Rabb Sur. ..... Derrick.

Humble Oil & Ref. Co. and Gulf Prod. Co.'s No. 6 Lockwood, 4,000 ft. E and 323 ft. N of SW cor. ..... Sandy shale showing oil 5,019 ft.; cmtd. csg.

Humble Oil & Ref. Co. and Gulf Prod. Co.'s No. 7 Lockwood & Sharp, J. Rabb Sur. ..... Derrick.

Humble Oil & Ref. Co. and Gulf Prod. Co.'s No. 11-A Lockwood & Sharp, J. Rabb Sur. ..... Location.

Humble O. & R. Co. and Gulf Prod. Co.'s No. 7-B Lockwood & Sharp, J. Rabb Sur., 850 ft. E of No. 6.. Drlg. shale 4,609 ft.

Humble Oil & Ref. Co. and Gulf Prod. Co.'s No. 8-B Lockwood & Sharp, J. Rabb Sur., 1,000 ft. from N line and 500 ft. from E line of 938-acre "B" lease ... Drlg. hard sand and lime 4,001 ft.

Humble Oil & Ref. Co. and Gulf Prod. Co.'s No. 9-B Lockwood & Sharp, J. Rabb Sur., 850 ft. E of No. 7.. Derrick.

Humble Oil & Ref. Co. and Gulf Prod. Co.'s No. 10-B Lockwood & Sharp, J. Rabb Sur., 1,750 ft. from E line and 400 ft. from S line of 938-ac. lease ..... Derrick.

Humble Oil & Ref. Co. and Gulf Prod. Co.'s No. 1 R. A. and O. H. Wolters, Robt. Peebles Sur., 325 ft. S and 500 ft. W of NE cor. of 1,000-ac. tract ..... Derrick.

Humble Oil & Ref. Co.'s No. 1 Gubbels, Samuel Kennedy Sur., 750 ft. N and 775 ft. W of SE cor. of Mrs. Mary Gubbels 90.6 acres ..... Set 50 ft. of screen 5,325 ft.; comp. flowing 55 bbls. per hr.; ⅝-in. choke; 650 lbs. on tubing.

Humble Oil & Ref. Co.'s No. 2 Gubbels, Samuel Kennedy Sur., 550 ft. from S line and 350 ft. from W line of 100-ac. lease ..... Derrick.

Naylor et al's No. 1 Whitmore, Samuel Kenedy Sur., 467 ft. N of S line in C E and W of Lot 7 (20 acres) .... Drlg. hard sandy shale 4,064 ft.

The Texas Company's No. 3 Wolters, Samuel Kennedy Sur., 750 ft. N of No. 2 and 300 ft. W of E line .... Sand showing oil 5,162-72 ft.; cmtd. 7-in. csg. 5,150 ft.

HIGH ISLAND—GALVESTON COUNTY

Yount Lee Oil Co.'s No. 2 Broussard & Orme, Martin Duman Sur., 300 ft. SE of No. 1 ..... Comp. flowing 375 bbls. fluid, 15% water, 5,435 ft.; T.D. 6,387 ft.

Yount Lee Oil Co.'s No. 30 Cade (W.O.), N. Fitzsimmons Sur. ..... Pulled screen to W.O. 5,149 ft.

Yount Lee Oil Co.'s No. 32 Cade, N. Fitzsimmons Sur., 600 ft. due S of No. 30 ..... Drlg. hard sand and lime 5,148 ft.

Yount Lee Oil Co.'s No. 1 Mathais fee, 150 ft. from S line and 192 ft. from E line of 23.44-acre tract in Sarah Reeves Subd., Martin Dunman Sur. ..... Drlg. hard sand and lime 2,903 ft.

Yount Lee Oil Co.'s No. 13 Smith, Martin Dunman Sur., 600 ft. W of No. 12 in line with Nos. 11 and 12..... Drlg. hard sand and shale 3,844 ft.

MANVEL—BRAZORIA COUNTY

The Texas Company's No. 2 Ewing, 1,220 ft. southwesterly and 300 ft. northwesterly at right angles out of E cor. of Blk. E of Suburban Gardens Subd., Harvey N. Little Sur. ..... Comp. flowing 350 bbls. 4,022 ft.

ARIOLA—HARDIN COUNTY

Gulf Prod. Co.'s No. 1 Kirby, Ariola, 330 ft. out of SE cor. of 100-ac. tract, Ariola Sur. ..... Drlg. sticky shale 6,200 ft.

Houston Oil Co.'s No. 1-Y Ariola fee, 5,610 ft. from W line and 5,610 ft. from N line of Ariola Sur. ..... Drlg. sticky shale 4,383 ft.

Houston Oil Co.'s No. 1-Z Ariola fee, 3,000 ft. from W line and 5,610 ft. from N line of Ariola Sur. ..... T.D. 4,520 ft.; plugged back to straighten hole; drlg. 3,311 ft.

Republic Prod. Co.'s No. 2 Ariola fee, Ariola Sur., 660 ft. due E of Gulf's No. 1-A Kirby ..... Fishing drill pipe 5,980 ft.

Republic Prod. Co.'s No. 3 Ariola fee, Ariola Sur., 660 ft. due S of Gulf's No. 1-A Kirby ..... Derrick.

SARATOGA—HARDIN COUNTY

Rio Bravo Oil Co.'s No. 90-A Jordit ..... Ald. 827 ft.

Rio Bravo Oil Co.'s No. 91 Jordit ..... Drlg. shale 300 ft.

SOUR LAKE—HARDIN COUNTY

Houston Prod. Co.'s No. 1 Merchant, Stephen Jackson Sur., 1,226 ft. from S line and 90 ft. from E line of lease ..... T.D. 4,051 ft.; sidetracked at 1,300 ft. and drlg. shale 3,902 ft.

M. M. Miller's No. 1 Libbie Oil Co., Stephen Jackson Sur., 1,330 ft. NW of Houston Prod. Co.'s No. 1 Merchant ..... Derrick.

HUMBLE—HARRIS COUNTY

J. D. Clay's No. 5 Bender, R. Dunman Sur., 525 ft. from S line and 203 ft. from E line of 100-acre tract ..... Sand and shale 1,105 ft.

Sun Oil Co.'s No. 59 River, R. Dunman Sur., 74 ft. from E line and 1,441 ft. from S line of block ..... Standing 370 ft.

Sun Oil Co.'s No. 65 River, R. Dunman Sur., 2,122 ft. from S line and 371.6 ft. from E line of lease ..... No report.

E. M. Wilson's No. 1 Wheeler & Pickens, Block 20, 40 ft. N of S line and 75 ft. E of W line of Blk. 20, J. B. Stevenson Sur. ..... No report.

MYKAWA—HARRIS COUNTY

Crown-Framer Oil Co.'s No. 3 Minnetex, 100 ft. from N line and 100 ft. from E line of W half of Block 251, Wm. Lovett Sur. ..... Comp. flowing 85 bbls. daily 4,864 ft.

Leon Wilkerson's No. 1 Irwin, Wm. Lovett Sur., 300 ft. N of Humble's No. 1 Irwin ..... Derrick.

PIERCE JUNCTION—HARRIS COUNTY

Rio Bravo Oil Co.'s No. 25-A Settegast, 625 ft. W and 525 ft. N of SE cor. "A" lease, Jas. Kopman Sur. No. 44 ..... Drlg. sandy shale 4,620 ft.

Rio Bravo Oil Co.'s No. 26-A Settegast, J. Kopman Sur., 1,310 ft. from N line and 750 ft. from E line of "A" lease ..... Drlg. sand 4,155 ft.

FANNETT—JEFFERSON COUNTY

Gulf Prod. Co.'s No. 6 Burrell, Wm. Smith Sur., 1,610 ft. N and 300 ft. E of SW cor. of 232-acre tract .... Drlg. hard sand and shale 4,611 ft.

Lowrie & Young's No. 1 Junker, Wm. Smith Sur., 135 ft. N and 100 ft. E of Gulf Prod. Co.'s No. 1 Junker lr 260-acre tract ..... No report.

ESPERSON—LIBERTY COUNTY

Cranfill-Reynolds Co.'s No. 2 Davis (W.O.), David Kokernut Sur., 300 ft. from E line and 100 ft. from S line of tract ..... Drlg. sand and shale 2,100 ft.

Cranfill & Reynolds' No. 5 Esperson (W.O.), M. Duncan Sur., 100 ft. N line and 300 ft. E line ..... D.S. stuck 6,844 ft.

Cranfill-Reynolds Co.'s No. 9 Moore's Bluff, M. Duncan Sur., 500 ft. S of N line of Moore's Bluff tract in line with No. 6 Davis and No. 6 Moore's Bluff ..... Location

Cranfill-Reynolds Co.'s No. 10 Moore's Bluff, M. Duncan Sur., 1,500 ft. from E line and 2,100 ft. from N line of 632-ac. tract ..... Sand and shale 5,050 ft.

HULL—LIBERTY COUNTY

Carpenter & Parr's No. 2 Antilley, Jesse DeVore Sur., 821 ft. W and 250 ft. S of NE cor. of 20-acre lease..Derrick.

Empire G. & F. Co.'s No. 34 Barngrover, Jesse DeVore Sur., 75 ft. out of SW cor. of lease ..... Sand 4,784 ft.; D.S. stuck.

W. B. Flynn's No. 1 Ray (W.O.), Jesse DeVore Sur. .... No report.

Gulf Coast Dev. Co.'s No. 2 Finley, Jesse Devore Sur., 135 ft. W of No. 1 and 51 ft. S of N line of lease.... No report.

Hannah Oil Co.'s No. 1 Hannah, Jesse DeVore Sur., 100 ft. W of The Texas Co.'s No. 1 Hannah ..... Swabbing 3,670 ft.

Lynd & Rowe's No. 1 Noble & Lynd, Jesse DeVore Sur., 137 ft. out of SE cor. 5-acre tract ..... No report.

Porter & Baggett's No. 1 Baggett, Jesse Devore Sur., 80 ft. from W line and 50 ft. from S line of 171-acre tract ..... Drlg. 1,125 ft.

Republic Prod. Co.'s No. 95 Dolbear (W.O.), Jesse DeVore Sur. ..... Drlg. 1,800 ft.

Republic Prod. Co.'s No. 147 Dolbear, Jesse DeVore Sur., 256 ft. W of No. 131 ..... Drlg. 2,412 ft.

Unique (Eclipse) Oil Co.'s No. 1 Knox-Nelson-Layton, Jesse Devore Sur., 30 ft. from N line and midway E and W of ½-acre tract ..... Derrick standing; temp. abd.

SOUTH LIBERTY—LIBERTY COUNTY

Mecom Oil Co.'s No. 1 Barrett, M. G. White Sur., 365 ft. from S line and 155 ft. from E line of lease ..... Set 3 jts. of screen 3,692 ft.; comp. flowing 40 bbls. pipe line oil, ½-in. choke; 41 gravity.

MARKHAM—MATAGORDA COUNTY

United North & South Dev. Co.'s No. 1 McDonald, I.&G.N. Sur., Blk. 9, Sec. 5, 460 ft. S and 80 ft. E of NW cor. of 35-acre tract ..... T.D. 3,698 ft.; sidetracked at 2,710 ft. and drilled to sand 3,507-13 ft.

CONROE—MONTGOMERY COUNTY

Alpha Pet. Co.'s No. 1 Keystone Mills, Lemuel Smith Sur., 466 ft. from E line and 1,398 ft. from N line .. Drlg. shale 1,962 ft.

Gulf Coast Drlg. & Prod. Co.'s No. 1 South Texas Dev. Co., T.&N.O. Sur., 4,500 ft. E of No. 1 Keystone Mills.. Drlg. sticky shale 3,618 ft.

W. B. Hamilton's No. 2 Moorehead, L A Lang Sur., 466 ft. from N line in C E and W of 40-acre tract ..... Drlg. broken sand 4,805 ft.

Harrison & Abercrombie's No. 1 O. L. Alexander, John McHorse Sur., 530 ft. from W line and 350 ft. from N line of 100-acre tract ..... Drlg. shale 2,606 ft.

Harrison & Abercrombie's No. 2 Alexander, John McHorse Sur., 964 ft. E of No. 1 or 1,535 ft. from W line and 391 ft. from N line of tract ..... Derrick.

Harrison & Abercrombie's No. 30 L. Alexander, John McHorse Sur., 300 ft. from N line and 195 ft. from E line of 100-ac. lease ..... Location.

Hooper-Rutherford Oil Co.'s No. 3 Hooper, L&G.N. Sur., Abst. 649, 782 ft. S of No. 2 in center of tract E and W ..... Cmtd. surface csg. 960 ft.

Humble O. & R. Co.'s No. 3 Dobbins, Ransom House, 700 ft. S from NW cor. lease and 460 ft. easterly at right angles ..... Derrick.

Humble Oil & Ref. Co.'s No. 4 Dobbins, Ransom House Sur., 1,064 ft. E of No. 2 and 466 ft. N of S line .... Derrick.

Humble Oil & Ref. Co.'s No. 5 Dobbins, Ransom House Sur., 1,050 ft. E of No. 4 and 350 ft. N of S line of lease ..... Location.

Humble Oil & Ref. Co.'s No. 6 Dobbins, Ransom House Sur., 466 ft. from E and S lines of lease ..... Location.

Humble Oil & Ref. Co.'s No. 1-C Cartwright, John Davis Sur., 550 ft. from S line and 350 ft. from W line of lease ..... Location.

Humble Oil & Ref. Co.'s No. 2-C Cartwright, John Davis Sur., 550 ft. from S line and 300 ft. from E line of "C" lease ..... Location.

Humble Oil & Ref. Co.'s No. 1-D Cartwright, John Davis Sur., center of 20-ac. "D" lease ..... Derrick.

Humble Oil & Ref. Co.'s No. 1 Emory, W.C.R.R. Sur., Sec. 13, 466 ft. from S line and 350 ft. from W line... Derrick.

Humble Oil & Ref. Co.'s No. 2 Emory, W.C.R.R. Sur., 2,100 ft. from S line and 350 ft. from E line.....Derrick.
Humble Oil & Ref. Co.'s No. 1 Gallemore, John Davis Sur., NE offset J. Papadakis' No. 1 McDonald.....Rig.
Humble Oil & Ref. Co.'s No. 1 Hirsch, D. McIntyre Sur., 450 ft. E of W line in C N and S of 40-acre tract ...Drlg. sand 5,067 ft.
Humble Oil & Ref. Co.'s No. 1-B Hirsch, D. McIntyre Sur., 350 ft. from S line and 450 ft. from W line of "B" lease .....Derrick.
Humble Oil & Ref. Co.'s No. 2-B Hirsch, D. McIntyre Sur., 450 ft. out of NW cor. "B" lease.....Location.
Humble Oil & Ref. Co.'s No. 2 Madeley, Ransom House Sur., 466 ft. southwesterly along southernmost SE line from SE cor. of tract and 466 ft. northwesterly at right angles .....Coring sand 5,144 ft.
Humble Oil & Ref. Co.'s No. 3 Madeley, 650 ft. E and 650 ft. S of SW cor. of M. W. Real Sur., in Ransom House Sur. .....Drlg. hard sandy shale 5,090 ft.
Humble Oil & Ref. Co.'s No. 4 Madeley, Ransom House Sur., 1,000 ft. N of No. 2 and 1,000 ft. W of No. 1....Drlg. shale 3,936 ft.
Humble Oil & Ref. Co.'s No. 5 Madeley, Ransom House Sur., 960 ft. S of No. 3 .....Derrick.
Humble O. & R. Co.'s No. 1 J. W. McDonald, John Davis Sur., 150 ft. S of N line of 56.55-acre tract, and direct offset James Papadakis' No. 1 McDonald..Drlg. sand and shale 5,129 ft.
Humble Oil & Ref. Co.'s No. 2 McDonald, John Davis Sur., direct offset No. 1-B Cartwright .....Derrick.
Humble Oil & Ref. Co.'s No. 1 A. Moorehead, Treviathan Sur., 466 ft. from N line, due S offset No. 2 Madeley..Drlg. shale 550 ft.
Humble Oil & Ref. Co.'s No. 1 E. Moorehead, L. A. Lang Sur., 466 ft. from N line in the center E and W of tract .....Rig.
Humble Oil & Ref. Co.'s No. 19 South Texas Dev. Co., 30 ft. N and 482 ft. W of SE cor. of T. C. Howell Sur..Comp. flowing 103 bbls. per hr., ½-in. choke, 5,176 ft.
Humble Oil & Ref Co.'s No. 20 South Texas Dev. Co., 765 ft. S and 671 ft. W of NE cor. of Theo. Slade Sur. .....Comp. flowing 100 bbls. per hr., ½-in. choke, 5,168 ft.
Humble Oil & Ref. Co.'s No. 21 South Texas Dev. Co., T. C. Howell Sur., 933 ft. NE of No. 8 and 709.8 ft. NW of survey line .....Comp. flowing 85 bbls. per hr., ½-in choke, 5,164 ft.
Humble Oil & Ref. Co.'s No. 22 South Texas Dev. Co., Theo Slade Sur., 333 ft. SW of SE cor. of Alex McCown Sur., thence 500 ft. S at right angles .....Coring sand 5,153 ft.
Humble Oil & Ref. Co.'s No. 23 South Texas Dev. Co., Theo. Slade Sur., 660 ft. N of No. 9 and 350 ft. E of E line of Gulf Coast Drlg. & Dev. Co.'s 60-acre tract..Coring sand 5,181 ft.
Humble Oil & Ref. Co.'s No. 24 South Texas Dev. Co., Theo. Slade Sur., 1,520 ft. W and 765 ft. S of NE cor. of survey .....Derrick.
Humble O. & R. Co.'s No. 25 South Texas Dev. Co., Theo. Slade Sur., 849 ft. S of No. 21 .....Derrick.
Humble Oil & Ref. Co.'s No. 26 South Texas Dev. Co., 1,200 ft. S of SE cor. of Gulf Coast D. & D. Co.'s "B" lease .....Coring sand 5,082 ft.
Humble Oil & Ref. Co.'s No. 27 South Texas Dev. Co., T.C. Howell Sur., 950 ft. NE of No. 23 and 950 ft. W of No. 14 .....Rig.
Humble Oil & Ref. Co.'s No. 28 South Texas Dev. Co., 1,450 ft. from S line and 900 ft. from W line of T. C. Howell Sur. .....Location.
Humble Oil & Ref. Co.'s No. 29 South Texas Dev. Co., 1,900 ft. from S line and 1,300 ft. from E line of T. C. Howell Sur. .....Location.
Humble Oil & Ref. Co.'s No. 30 South Texas Dev. Co., 466 ft. N of S line Theo. Slade Sur., north offset Tidal Oil Co.'s No. 2 Lewis .....Derrick.
Humble Oil & Ref. Co.'s No. 31 South Texas Dev. Co., 350 ft. N of S line Theo. Slade Sur., N offset Tidal Oil Co.'s No. 4 Lewis .....Location.
Humble Oil & Ref. Co.'s No. 32 South Texas Dev. Co., 1,300 ft. from S line and 4,800 ft. from E line of Theo. Slade Sur. .....Location.
Humble Oil & Ref. Co.'s No. 33 South Texas Dev. Co., 1,300 ft. from S line and 4,000 ft. from E line of Theo. Slade Sur. .....Location.
Humble Oil & Ref. Co.'s No. 1-B South Texas Dev. Co., C. T. Darby Sur., 450 ft. W of E line of Sur., due W offset No. 1-A Hirsch .....Location.
Humble Oil & Ref. Co.'s No. 2-B South Texas Dev. Co., C. T. Darby Sur., due W offset No. 2 Emory.....Location.
Humble Oil & Ref. Co.'s No. 3-B South Texas Dev. Co., C. T. Darby Sur., due W offset No. 2-B Hirsch.....Location.
Humble Oil & Ref. Co.'s No. 1-A Alexander, NE cor. of J. McHorse Sur. .....Comp. flowing 85 bbls. per hr., ½-in. choke, 5,152 ft.
Humble Oil & Ref. Co.'s No. 2-A Alexander, J. McHorse Sur., 350 ft. from the E line in the C N and S of 20-acre tract .....Drlg. shale 965 ft.
Humble Oil & Ref. Co.'s No. 1-E Alexander, John McHorse Sur., 598 ft. S and 362 ft. E of NW cor. of Alexander "B" lease .....Oil sand 5,032 ft.; coring.
Humble Oil & Ref. Co.'s No. 1-C Alexander, John McHorse Sur., 577 ft. from E line of survey in C N and S of 20-acre tract .....Drlg. shale 5,010 ft.
Humble O. & R. Co.'s No. 1-D Alexander, John McHorse Sur., 599 ft. S of N line of survey and midway E and W lines of 20-acre "D" lease .....Derrick.
Humble Oil & Ref. Co.'s No. 2-D Alexander, John McHorse Sur., 466 ft. from E line in center E and W of lease .....Spudded.
Humble O. & R. Co.'s No. 1-E Alexander, John McHorse Sur., 577 ft. E of W line of Sur., and midway N and S line of 50-acre "E" lease .....Drlg. shale and lime 3,811 ft.
Humble Oil & Ref. Co.'s No. 7-A Cartwright, 350 ft. N of S line, due N offset Violet & Griffith's No. 1 Hooper .....Comp. flowing 59 bbls. per hr., ⅝-in. choke, 5,176 ft.
Moore & Bruton's No. 2 Hooper, I.&G.N. Sur., Abst. 650, 466 ft. N of S line in C of tract F and W .....Coring sand 5,005 ft.
Navarro Oil Co.'s No. 1 Gallemore, John Davis Sur., 280 ft. from N line and 180 ft. from E line of tract.....Spudded.
Neversuch Oil Co.'s No. 1 South Texas Dev. Co., T.&N.O. Sur. No. 8, 466 ft. from S line in center E and W of 90 acres .....Derrick.
James Papadakis' No. 1 Stella McDonald, John Davis Sur., 941⅛ ft. from E line, 262.8 ft. from S line of 5-acre tract .....Set 50 ft. of 5-in. screen 5,118 ft.; comp. flowing 270 bbls. per hr., 5,118 ft.
South Gulf Oil Co.'s No. 1 Granger, T.&N.O. Sur. No. 14, 467 ft. out of most westerly NW cor. of 117-acre tract .....Drlg. shale 3,154 ft.
Southland Oil Co.'s No. 2 Cummings, Wilson Strickland Sur., 466 ft. from E line of survey, 934 ft. SE of No. 1 .....Spudded.
Standard Oil Co. of Kansas' No. 1 Alexander, John McHorse Sur., 330 ft. from N line and 362 ft. from W line of tract .....Sand showing oil 5,090-5,110 ft.; comp. flowing 42 bbls. per hr., ⅝-in. choke.
C. C. Steinberger's No. 1 South Texas Dev. Co., T.&N.O. Sur., Abst. 568, 540 ft. from S line in S E and W of 35-acre tract .....Drlg. sandy shale 2,204 ft.
C. C. Steinberger's No. 2 South Texas Dev. Co., T.&N. O. Sur., Abst. 568, 1,160 ft. from S line in center E and W of 35-acre tract .....Derrick.
Steinberger, Brown & Wheeler's No. 1 South Texas Dev. Co., T.&N.O. Sur. No. 5, center of S 20 acres of 50-acre lease .....Derrick.
G. W. Strake's No. 1 Lewis, Chas. Stewart Sur., 1,400 ft. E of W line and 2,206 ft. N of S line .....Coring sand and shale 4,810 ft.
The Texas Co.'s No. 2 Moody, Ransom House Sur., 466 ft. S 15 degrees E and 466 ft. N 75 degrees E from NW cor. lease .....Cmtd. 10¾-in. csg. 913 ft.
The Texas Co.'s No. 3 Moody, Ransom House Sur., S 15 degrees E 1,398 ft. and N 75 degrees 466 ft. from NW cor. of lease .....Drlg. sticky shale 3,067 ft.
The Texas Company's No. 4 Moody, Ransom House Sur., 1,064 ft. E of No. 1 and 466 ft. S of N line .....Cmtd. 10¾-in. csg. 910 ft.
The Texas Company's No. 5 Moody, Ransom House Sur., 1,549 ft. from E line and 466 ft. from N line of lease..Derrick.
The Texas Company's No. 6 Moody, Ransom House Sur., 466 ft. from E line and 466 ft. from N line of lease..Building derrick.
The Texas Company's No. 7 Moody, Ransom House Sur., 1,306 ft. from N line and 466 ft. from E line of lease..Location.
The Texas Company's No. 8 Moody, Ransom House Sur., 2,320 ft. from N line and 466 ft. from W line of lease..Spudded.
The Texas Co.'s No. 1 W. S. Rhodes, Rhodes Sur., 466 ft. from W line and 220 ft. from S line of lease....Drlg. shale 1,452 ft.
Tidal Oil Co.'s No. 2 Lewis Estate, C. B. Stewart Sur., 467 ft. from N and W lines of Lewis 665.5-acre tract..Spudded.
Tidal Oil Co.'s No. 3 Lewis, C. B. Stewart Sur., 1,500 ft. from N line and 466 ft. from E line of lease .....Derrick.
Tidal Oil Co.'s No. 4 Lewis, C. B. Stewart Sur., 2,356 ft. from W line and 450 ft. from N line of lease.....Location.
Violet & Griffith's No. 1 Mrs. Fannie Hooper, M. DeMoss Sur., 350 ft. S of N line of survey in C E and W ....Drlg. plug 5,088 ft.
Violet & Griffith's No. 6 Mrs. Fannie Hooper, M. DeMoss Sur., C of survey E and W, due offset Alpha's No. 1 Dunn .....Coring sand and shale showing oil 5,064 ft.

CLAY CREEK—WASHINGTON COUNTY

Clay Creek Oil Co.'s No. 2 Bimage, J. F. Perry Sur., 1,600 ft. from S line and 150 ft. from E line of sur...No report.
Sun Oil Co.'s No. 1 Schulte, J. F. Perry Sur., 204 ft. from NE line and 300 ft. from SE line of tract .....Drlg. 1,220 ft.

SOUTH LOUISIANA FIELDS

JENNINGS—ACADIA PARISH

Olympic Oil Co.'s No. 1 Lockett, 1,150 ft. S and 75 ft. W of NE cor. of Sec. 42-9s-2w .....Drlg. gumbo 1,605 ft.
Phillips & Artigue's No. 2 Cruse (W.O.), 85 ft. from E line and 60 ft. from N line of tract in Sec. 47-9s-2w..No report.
Yount Lee Oil Co.'s No. 11 Housierre-Latrielle, 1,010 ft. N and 5,050 ft. S of SW cor. of Sec. 47-9s-2w .....Drlg. shale 6,820 ft.

DARROW—ASCENSION PARISH

Rio Bravo Oil Co.'s No. 2 Community, Sec. 31-10s-2e, 1,760 ft. S and 600 ft. W of No. 1 .....Location.
Rio Bravo Oil Co.'s No. 1 Gumbel, 4,000 ft. W and 250 ft. S of NE cor. of S. Gumbel & Co. tract, Sec. 33-10s-2e .....Rig.

SORRENTO—ASCENSION PARISH

Union Sulphur Co.'s No. 22 United Land Co., 5,760 ft. N and 1,360 ft. W of SE cor., Sec. 15-10s-4e.....Salt 4,908-23 ft.

IOWA—CALCASIEU AND JEFF DAVIS PARISHES

Shell Pet. Corp.'s No. 2 Fontenot, 325 ft. E and 325 ft. N of SW cor. of Sec. 7-9s-6w .....Sand showing oil 6,931-38 ft.; comp. flowing 50 bbls. per hr., 18/64-in. choke.
Shell Pet. Corp.'s No. 3 Fontenot, Sec. 7-9s-6w, direct E offset Magnolia's No. 2 Waite .....Spudded.

EDGERLY—CALCASIEU PARISH

The Texas Company's No. 1 Miller Estate, 150 ft. E and 150 ft. S of NW cor. of NE of Sec. 27-9s-11w .....Drlg. sand and shale 6,095 ft.

LOCKPORT—CALCASIEU PARISH

Lockport Oil Co.'s No. 1 Phoenix .....D.S. stuck 1,300 ft.; standing.
Magnolia Pet. Co.'s No. 6-A Farquahar, 1,020 ft. E and 150 ft. N of C of Sec. 8-10s-9w .....Drlg. gumbo 1,910 ft.
Union Sulphur Co.'s No. 4 Martha Moss, Sec. 8-10s-9w....Drlg. gumbo 2,010 ft.

SULPHUR—CALCASIEU PARISH

Union Sulphur Co.'s No. 770 fee, 392 ft. S. 1,243 ft. W of center, Sec. 29-9s-10w .....Drlg. rock 4,900 ft.
Union Sulphur Co.'s No. 773 Fee, Sec. 29-9s-10w.....Drlg. gumbo 1,900 ft.
Union Sulphur Co.'s No. 774 fee, 336 ft. W. 114 ft. S of center of Sec. 29-9s-10w.....Drlg. 4,525 ft.

VINTON—CALCASIEU PARISH

Marrs McLean's No. 14 Gray, Sec. 33-10s-13w, 88 ft. W and 30 ft. S of No. 1 .....Heaving shale 3,056 ft; cut 6-in. liner 1,758 ft; set 33 ft. of 6-in. screen 1,811 ft.; failed to flow; standing.

GUEYDAN—VERMILLION PARISH

Pure Oil Co.'s No. 3 Alliance Trust Co., 699 ft. from N line and 1,460 ft. from W line of Sec. 34-11s-1w .....Cored sandy shale showing oil 4,171-76 ft.
Pure Oil Co.'s No. 2 Mulvey, Sec. 34-11s-1w, 1,515 ft. from N line and 1,150 ft. from E line of tract .....Drlg. sand and gravel 960 ft.

HACKBERRY—CAMERON PARISH

Wilfred Lahaye's No. 1 Olevia, Sec. 36-12s-10w, in 2-acre tract .....Spudded and shut down.
Lackawanna Oil Co.'s No. 1 Ellender, 320 ft. S and 150 ft. E of NW cor. of SE SE of Sec. 21-12s-10w .....Derrick.
Massert & Cruse's No. 1 J. B. Duhon, 656 ft. S and 325 ft. E of NW cor. of Sec. 26-12s-10w .....Derrick.
Union Sulphur Co.'s No. 4 Gulf Land-Humble lease, 710 ft. N and 330 ft. W of SE cor. of Sec. 11-12s-10w ...Drlg. shale 5,820 ft.
Union Sulphur Co.'s No. 2 Gulf Land-Pure lease, 1,958 ft. N and 200 ft. W of SE cor. of Sec. 11-12s-10w ...Drlg. sandy shale 6,804 ft.

CHOCTAW—IBERVILLE PARISH

Standard Oil Co.'s No. 3 Gay, 520 ft. S and 200 ft. E of C of Sec. 52-9s-11e .....Rig.

WHITE CASTLE—IBERVILLE PARISH

Shell Pet. Corp.'s No. 6 Wilbert, Sec. 9-11s-12e, 200 ft. out from No. 5 .....Sand showing oil 5,818 ft.; cmtd. csg.

CAMERON MEADOWS—CAMERON PARISH

Magnolia Pet. Co.'s No. 3 Cameron Meadows, 3,620 ft. S and 1,900 ft. W of NE cor. of Sec. 21-14s-13w....Spudded.

LEESVILLE—LA FOURCHE PARISH

The Texas Co.'s No. 6 L.L.&E., Sec. 26-21s-22e.....Location.

PORT BARRE—ST. LANDRY PARISH

Port Barre Oil Co.'s No. 1 Sibille (W.O.), Sec. 26-6s-5e, 600 ft. S and 134 ft. E. NW cor. of 30-ac. tr. ....Standing 3,572 ft.

STARKS—CALCASIEU PARISH

Emerson & Stark's No. 1 Industrial, 400 ft. S of No. 1, in SE cor. NE NW, Sec. 30-9s-12w,..... T.D. 4,990 ft.; sidetracked at 4,650 ft. and drlg. sand showing oil 4,770 ft.

SWEET LAKE—CAMERON PARISH

Pure Oil Co.'s No. 11 Yount Lee, Sec. 12-13s-8w, 800 ft. S 66 deg. 42 min. from No. 9 .....Drlg. gumbo 3,701 ft.

TEXAS

MISCELLANEOUS WILDCATS

AUSTIN COUNTY

Bunte, Inc.'s No. 1 Dittert, M. N. Allen Sur., 300 ft. SW and 300 ft. NW from W cor. of Henry Vornkahl 16 acres .....Rig.
Great Southern Oil Co.'s No. 1 Schevojss, 329 ft. N, 78° E of N cor. B. Dottery Sur. .....S.D. 2,848 ft.
Sun Oil Co.'s No. 1 R. W. Theuman, Juan DeLeon Sur., 900 ft. S of N line and 924 ft. E of W line of 125-ac. lease .....Location.
Tibbett et al's No. 1 Heidman, 4,320 ft. SW along NW line from most northerly corner of A. Larrison Sur., thence 405 ft. NW at right angles .....Derrick.

BRAZORIA COUNTY

Danciger O. & R. Co.'s No. 1 W. C. Hunt, Pledger, 5,220 ft. from the N line and 4,500 ft. from E line of W. Colrson Sur. ..... Sand showing oil 6,758-82 ft.; reset 23 ft. of 5 3/16-in. screen on full string of 4½-in. liner; washing.

John Deering's No. 1 C. W. Chapman, 294 ft. from S line and 104 ft. from E line of Lot 3, Andrew Robinson Sur. ..... Sand rock 5,788 ft.; fishing drill pipe.

Gulf Prod. Co.'s No. 1 American National, E. R. Bradley Sur. No. 12, 7,594 ft. E and 900 ft. N of SW cor. of 1,472-acre tract ..... Drlg. shale and lime 4,323 ft.

Gulf Prod. Co.'s No. 1-B H. P. Lockwood, Wiley Martin Sur. No. 3, 3,024 varas S. 45° W along SE line of Lockwood 536-acre tract from E cor., thence 241 varas NW at right angles from said line ..... Drlg. sand rock 5,371 ft.

A. D. Parsons et al's No. 1 Hughes, 1,500 varas, NE from W cor. along NW line of A. L. D. Lewis Sur., and 200 varas SE at right angles in Hughes 320-acre tract ..... Drlg. sticky shale 4,326 ft.

Tri-fin Oil Co.'s No. 1 Moers, 1,635 ft. southwest of Chocolate Bayou and 693 ft. SE of NW line of F. Moore Sur. ..... Drlg. shale and lime 2,785 ft.

BURLESON COUNTY

Ball & Knob's No. 1 Polansky, M. B. Lawrence Sur., 359 ft. from E line and 469 ft. from N line of 158-ac. tr. ..... No report.

S. M. Bracey et al's No. 1 Bracey, J. Lastly Sur., 350 ft. from E cor. of P. Taylor 110 acres, SE along NE line of J. G. Houston 160 acres, thence 180 ft. at right angles in 3-acre tract ..... S.D. 2,340 ft.

Simpson Oil & Gas Co.'s No. 3 Duckworth & Gilley, P. Singleton Sur., 50 ft. SE of No. 1 ..... No report.

J. E. Stubblefield et al's No. 1 Mitchell, A. T. Woolridge Sur., 51 ft. SW and 4,340 ft. SE of S cor. of Joseph Henson Sur. ..... Gumbo 680 ft.; standing

CHAMBERS COUNTY

Weaver-Ray's No. 1 Fisher, John Tjams Sur., 210 ft. S of Rucker et al's No. 1 Fisher ..... Shut down 1,060 ft.

Yount Lee Oil Co.'s No. 1 Plummer, H.&T.C. Sur. No. 28, 2,340 ft. from N line and 2,640 ft. from W line of section ..... Drlg. shale 3,543 ft.

COLORADO COUNTY

Pilot Oil Co.'s No. 1 Tate, Cooke & DeWeese Sur. ..... Location.

FORT BEND COUNTY

Lowrie & Young's No. 1 Jackson Brown, Pilant Lake, Wm. Barrett & Abner Harris Sur., 152 ft. E and 158 ft. N out of SE cor. of Humble 182-acre Brown lease in D. Hale 548-acre tract ..... Bldg. derrick.

Lynch et al's No. 1 Knoltz, 690 ft. from NW line and 350 ft. from SW line of Sec. 43, H.&T.C. Sur. ..... Shut down for repairs 672 ft.

Naylor & DeCosta's No. 1 Naylor, 4,350 ft. N, 55 deg. E from SW cor. 653-acre tract in Christman Sur. .... T.D. 7,014 ft.; standing.

Paul & Gerke's No 1 Krenek, Gale Borden Sur., 150 ft. out of NW cor. of tract ..... Derrick.

Reisinger et al's No. 1 Joe Sitter, Long Point, T. J. Bell Sur., 150 ft. SW and 150 ft. SE of N cor. of 80-acre tract ..... No report.

GALVESTON COUNTY

Humble Oil & Ref. Co.'s No. 1 Rosenkranz, Green's Bayou, center N half of Lot 10, Sarah White Sur. .... Drlg. shale 7,119 ft.

GRIMES COUNTY

Barnett et al's No. 1 Dodd, Timothy Jones Sur. ..... T.D. 2,689 ft; 6⅝-in. csg. 2,660 ft; bailed csg. and swbd. S.W.; standing.

W. J. Brightwell's No. 1 Combs, Samuel Beauman Sur., 350 ft. from S line and 622 ft. E of extreme W line of 276-acre tract ..... Shut down for boiler repairs 5,120 ft.

Petroleum Southwestern Corp.'s No. 1 Greer Bros., Pat B. O'Connor Sur., 450 ft. S and 300 ft. E of SW cor. of 63-acre tract ..... Derrick.

HARDIN COUNTY

Chas. Paggi's No. 1 Hooks, 300 ft. out of NW cor. of Wm. Slade Sur. ..... S.D. 1,738 ft.

Joe E. Proctor's No. 1 Russell & Teagle, 3,650 ft. E and 2,777 ft. N of NW cor. of Wm. W. Young Sur. .... T.D. 2,685 ft. (corrected); hole heaved in.

Republic Prod. Co.'s No. 1 Ben Andrews fee, 1,140 ft. W of Neches River and 345 ft. N at right angles in van Meter Sur. ..... Drlg. lime rock 6,487 ft.

Robichaux et al's No. 1 Kirby Lbr. Co., 4,167 ft. W and 2,500 ft. N of SE cor. of Ben Hawkins Sur. ..... Drlg. sandy shale 2,926 ft.

HARRIS COUNTY

T. V. Buckholve & Sons' No. 1 Miller, Arthur McCormick Sur. ..... S.D. 1,310 ft.

Cherry & Pritchard's No. 1 Dr. Griffith, B. Bell Sur., 682 ft. from E line and 60 ft. from N line of 250-acre tract ..... T.D. 756 ft.; cmtd. 10-in. csg. [illegible] ft.

John Deering et al's No. 2 Warren, T. Snell Sur., 100 ft. SW of No. 1 ..... No report.

JASPER COUNTY

Gulf Prod. Co.'s No. 1 Miller Vidor, 2,393 ft. S and 112 ft. E of NW cor. of Sarah Gray Sur. ..... Drlg. water sand 6,640 ft.

Houston Oil Co.'s No. 1 Richardson fee, 2,000 ft. S and 3,003 ft. W of NE cor. of Ben Richardson Sur. ..... Drlg. shale 6,052 ft.

Smitherman, Neilson & Noble's No. 1 Cameron, SE cor. of Cameron Lbr. Co. tract, Wm. Jones Sur. ..... Location.

JEFFERSON COUNTY

Coastal Oil Co.'s No. 1 Young, 350 ft. from E line and 160 ft. from S line of 40-acre tract in Blk. F-5, Lot 6, Joseph Grigsby Sur. ..... No report.

Glam & Pipkin's No. 2 Broussard, John McGaffey Sur., 150 ft. due E of No. 1 ..... Shut down 1,855 ft

Jack Schultz' No. 2 Todd, Cheek, 1,800 ft. S of No. 1 and 130 ft. E of W line of Wm. Carr Sur. ..... Drlg. soft lime rock 6,525 ft.

LIBERTY COUNTY

Leon Brisley's No. 1 J. M. Neal, Edward Tanner Sur., 1,800 ft. E, 1,300 ft. N of most westerly NW cor. of Margaret Evans Sur. ..... Drlg. shale 2,768 ft.

Mayes et al's No. 1 Dunman, J. C. Martin Sur., 1,111 ft. from S line of survey and 2,340 ft. W of Trinity River ..... Spudded and shut down.

MATAGORDA COUNTY

Cockburn Oil Corp.'s No. 5 Hawkins, Shepherds Mott, 2,200 ft. SE and 1,800 ft. NE of W corner of Daniel McCarthy Sur. ..... Drlg. sand and gumbo 2,104 ft.

Dr. Griffith et al's No. 8 Baer, Big Hill, 5,000 ft. N, 3,000 ft. E from SW cor. of Seth Ingram Sur. ..... Standing 2,720 ft.

Humble Oil & Ref. Co.'s No. 1 Pierce Est., Isaac Foster Sur., 330 ft. from N line and 330 ft. from E line of tract ..... Drlg. sandy shale 2,756 ft.

Rugeley et al's No. 1 Cleveland, E. Hall Sur., 450 ft. E of Cottonwood Creek and 200 ft. N of S line of 60-acre tract ..... No report.

R. L. Sprinkle et al's No. 1 Turner, 4,900 ft. from NE line and 3,800 ft. from SE line of M. Cummings Sur. .. Drlg. gumbo 1,726 ft.

MONTGOMERY COUNTY

A. H. Parsons et al's No. 2 Drought, Kronknite Sur., 3,000 ft. N and 100 ft. E of NW cor. of A. B. Hill 46¾ acres ..... Drlg. shale 2,330 ft.

Rhoubotham et al's No. 1 A. H. Salls, Wm. Barker Sur., 390 ft. from E line and 400 ft. from N line of W 36 acres of Salls tract ..... Shut down for fuel 540 ft.

Sutton-Hawkins' No. 1 Foster, Rosea de la Garza Sur., 3,333 ft. N and 1,320 ft. E of NE cor. of W. J. Johnson 100-ac. tract ..... Standing 3,349 ft.

NEWTON COUNTY

L. A. James et al's No. 1 Price, T.&N.O. Sur., 1,000 ft. from W line and 800 ft. from N line of tract ..... Drlg. shale 2,059 ft.

ORANGE COUNTY

Republic Prod. Co. and Houston Oil Co.'s No. 1 Hurst fee, 2,000 ft. W and 2,200 ft. N of SE cor. of Ed Hurst Sur. No. 15 ..... Drlg. shale 4,117 ft.

E. L. Smith Oil Co.'s No. 1 Miller-Vidor, 750 ft. E and 200 ft. N of SW cor. of J. M. Swisher Sur. No. 3 .... Drlg. shale 5,466 ft.

POLK COUNTY

Anderson et al's No. 1 Duke, Peter J. Manard Sur., 330 ft. out of NW cor. of 235-acre tract ..... Coring shale 3,738 ft.

Koch & Stevens' No. 1 Ruth Lawrence, Castillian Sur., 300 ft. from W line and 790 ft. from S line of 54-acre tract ..... Black shale 2,536 ft.

Tony & Purdy's No. 1 Martha Roberts, Joaquin T. De Rumayor Sur. ..... T.D. 3,656 ft.; sidetracked at 2,500 ft. and drlg. shale 3,132 ft.

Dick Schwabb and Shell Pet. Corp.'s No. 2 Davis & Holmes, A. Viesca Sur., 485 ft. N and 376 ft. W of NE cor. of J. Duff 85 acres ..... Coring sandy shale with odor of oil 4,347 ft.

REFUGIO COUNTY

Gulf Prod. Co.'s No. 2 J. O'Connor (W.O.), C.E.P.I.&M. Co. Sur. No. 40, 1,200 varas from S line and 1,500 varas from E line of tract ..... Rig up to deepen 5,115 ft.

Gulf Prod. Co.'s No. 3 O'Connor, C.E.P.I.&M. Co. Sur. No. 133, 6,225 ft. SW along SE line from NE cor. of John O'Connor land, thence 2,639 ft. NW at right angles ..... Derrick.

Humble Oil & Ref. Co.'s No. 3 O'Connor, Florentine Rice Sur., 13,757 ft. from S line at right angles and 3,412 ft. from E line at right angles of 5,545-acre ranch ..... Sand 3,129-42 ft.; set 1 jt. of 7-in. screen; swabbing 175 bbls. daily.

SAN JACINTO COUNTY

Weaver et al's No. 1 Delta Land & Timber Co., 1,400 ft. NE of SW line of James W. Robertson Sur., and 800 ft. at right angles ..... Derrick.

TRINITY COUNTY

C. M. Beckner's No. 1 Gibson, Wm. Beasley Sur., 600 ft. S along E line of survey and 150 ft. W at right angles ..... Sand showing gas 1,001-22 ft.; cmtd. 8-in. csg. 935 ft.; drilled plug and tested dry.

TYLER COUNTY

Republic Prod. Co. and Houston Oil Co.'s No. 1 Sam Jeffcoat, E. Thompson Sur., 467 ft. N and E from SW cor. of 100-acre tract ..... Derrick.

Republic Prod. Co. and Houston Oil Co.'s No. 1 Kirby, E. Thompson Sur., 467 ft. N and E from NE cor. of Sam Jeffcoat 100 acres ..... Derrick.

Republic Prod. Co. and Houston Oil Co.'s No. 1 Sterne fee (W.O.), 5,384 ft. from W line and 484 ft. from N line of Adolphe Sterne Sur. ..... Drlg. shale 5,076 ft.

VICTORIA COUNTY

Gulf Prod. Co.'s No. 3 Keeran Ranch, Martin DeLeon Sur., 1,320 ft. NW of No. 1 ..... Drlg. shale 4,740 ft.

Houston Oil Co. and Magnolia Pet. Co.'s No. 1 Beck, I.R.R. Sur. No. 26, 1,000 ft. NE along NW line from most westerly west cor. of Lot D and 600 ft. SE at right angles ..... Drlg. shale 4,659 ft.

Slick-Seeligson Corp.'s No. 2 McFaddin (D.D.), J. Varian Sur., 1,100 ft. NE of SW line and 635 ft. E of railroad ..... No report.

The Texas Company's No. 5 McFaddin, 1,200 ft. westerly and 300 ft. northerly at right angles from SE cor. of J. A. McFaddin 98-acre Sur. ..... Drlg. sand and shale 1,925 ft.

Union Oil Co.'s No. 2 Keeran, Martin DeLeon Sur., 500 ft. E of E line of Gulf lease and 1,900 ft. N of railroad ..... Drlg. sandy shale 5,182 ft.

WALLER COUNTY

Birdwell et al's No. 1 Robertson, John Baker Sur., 1,625 ft. from S line and 450 ft. from W line of 64-acre tract ..... Derrick.

Hobson et al's No. 1 Joe W. Harris, 3,000 ft. from E line and 5,000 ft. from N line of H.&T.C. Sur. in Harris 1,475-acre lease in Justo Liendo Sur. ..... D.P. stuck 4,857 ft.; sidetracked at 3,900 ft.; drlg. shale 4,416 ft.

WASHINGTON COUNTY

Yequa Oil Co.'s No. 18 Pomacal, S. M. Williams Sur., 1,282 ft. from W cor. of Shulz 44-acre tract, thence 123 ft. NW at right angles ..... T.D. 1,515 ft.

WHARTON COUNTY

Cullen & West's No. 1 Hawes, G. W. Singleton Sur., 530 ft. NE and 320 ft. SE of W cor. of Hawes' 148-acre tract ..... Drlg. shale 4,141 ft.

Cullen & West's No. 1 J. D. Hudgins, Alexander Jackson Sur., 330 ft. out of S or SE cor. of J. D. Hudgins' 319-acre tract ..... Drlg. lime and shale 3,876 ft.

Gantt et al's No. 1 Laura Hahn, N. Manch Sur., 330 ft. out of NE cor. 142.17-ac. tract ..... T.D. 5,540 ft.; reaming to bottom.

Dayvault-Tyler-Gardner's No. 1 Dayvault, Wm. Kincheloe Sur., 200 ft. SW and 600 ft. SE of N cor. of 298-ac. tract ..... Derrick.

Smith & Daniels' No. 1 Mitchell, H.&T.C. Sur. No. 8, 330 from NE line of NE 80-acre tract in C of tract NW and SE ..... Coring sandy shale 5,353 ft.

Steed Prod. Co.'s No. 1 Tucker, 210 ft. W and 50 ft. N of NE cor. of S½ of SW¼ of Sec. 58, E.T.R.R. Sur. ..... Rigging up.

SOUTH LOUISIANA

BEAUREGARD PARISH

DeRidder Dev. Co.'s No. 1 McMahon, 200 ft. W and 156 ft. S of NE cor. of NW of Sec. 33-2s-9w ..... Standing 1,286 ft.

CALCASIEU PARISH

Cannon & Hughes' No. 1 J. S. Reed, Sec. 18-10s-12w ... Derrick.

I. R. Irvine et al's No. 1 A. D. Mimms, 741 ft. N and 741 ft. W of SE cor. SE NE, Sec. 20-9s-7w ..... Sandy shale 1,695 ft.

JEFFERSON DAVIS PARISH

B. D. Finly's No. 1 Clarphy Lognion, SW NW of Sec. 32-10n-4w ..... Spudded and S.D.

LA FOURCHE PARISH

Lechner & Hubbard's No. 1 Lollain, 150 ft. out of SE cor. of NW NW of Sec. 32-18s-22e ..... Spudded.

PLAQUEMINES PARISH

The Texas Co.'s No. 6 Garden Island Bay, 1,548 ft. S and 2,497 ft. W of NE cor. of Sec. 107-23s-32e ..... Blew out 316 ft.; standing.

TERREBONNE PARISH

The Texas Co.'s No. 7 Caillou Island, 300 ft. S and 300 ft. W of NE cor. of Sec. 19-23s-20e ..... Driving piling.

The Texas Company's No. 17 State-Lake Barre, 1,476 ft. W and 626 ft. S of NW cor. of Sec. 20-21s-20e ..... Salt 2,979-4,436 ft.; milled out 1,027 ft. and drlg. sidetracked hole.

The Texas Company's No. 4 Lake Barre-L.L.&E., 2,863 ft. S and 2,076 ft. W of NW cor. of Sec. 30-21s-20e in Sec. 36-21s-19e ..... Anhydrite 2,385 ft.

VERMILLION PARISH

Shell Pet. Corp.'s No. 1 Hebert, 2,310 ft. W and 330 ft. N of SE cor. of Sec. 10-15s-1e ..... Building derrick.

VERNON PARISH

Minerals Division Llano Co.'s No. 1 Llano Del Rio, 542 ft. E and 300 ft. S of NW cor. of NW of Sec. 34-1n-9w ..... No report.

TECHNICAL QUESTIONS ANSWERED

By Charles K. Francis, Ph. D., Technical Editor

This department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry.

Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation; also those connected with marketing and utilization of petroleum products.

Questions should be submitted in as much detail as possible.

Inquiries must be signed but only the given initials will be printed. The source of the questions is considered to be confidential.

Questions requiring a discussion of patents, the use of intricate formulas, extended computations, or cost estimates cannot be considered.

When the matter is of general interest the reply will be published within a reasonable time.

Quality of Gas Oils and Different Cracking Systems

When cracking gas oils of different crude bases does the pump pressure or vapor pressure mean the same thing if temperatures are at the cracking heat or can a gas oil crack without being in the vapor state? Why is it that when these different gas oils are cracked separately at atmospheric pressure they form gas and coke at different temperatures?—J. F. O.

Gas oil is similar to all petroleum liquids in that it is not a definite compound but a heterogenous mixture, always changing with the conditions of distillation, an alternation of even a few degrees in temperature when running the still being reflected in the composition of the gas oil. Vapor pressure necessarily varies with the nature of the hydrocarbones present. Any petroleum product obtained from gas oil, by cracking or any process, will possess certain characteristics, the exact nature of which must depend on the composition of the oil.

The first process used for cracking was of the liquid phase type, the oil being held under pressure at a high temperature for a definite period of time, and it is only recently that vapor phase cracking has been developed to a commercial scale. Cracking may take place at a relatively low temperature, between 350° and 400° F., at atmospheric pressure, but the rate is low. When the oil is heated in an enclosed vessel the gas and vapors formed develop the pressure. A pump might be used to raise the oil to the same pressure but the expense would be too great. The essential condition for cracking is temperature, the reaction advancing rapidly with an increase of a few degrees. An increase of 18° to 20° F. will double the rate of decomposition and the quantity of product formed.

The original liquid phase process was the Burton, patents of 1913 and 1914, some of the units being in use at this time. The original stills, of the horizontal type, were small, taking a charge of gas oil of about 200 bbls. and operating under 80 pounds pressure at 750° F. The vapors were slowly released until 60 to 70 per cent had distilled. The on-stream period was about 48 hours.

When an oil is subjected to cracking conditions the decomposition of the large molecule is always accompanied by the formation of gas and carbon. The formation of carbon is a controlling factor in pressure still operation. The carbon, or coke, is the final residue remaining after everything else has distilled away. Under like conditions the quantity deposited will depend upon the composition of the oil, because the percentage of carbon is variable. The same is true of gas formation. Every effort is made in the design and operation of a pressure still to prevent deposition of carbon. The grade of oil must be especially considered. The heavier oils, those containing compounds of high molecular weight, tend to form more carbon than the lighter ones. The gas is thought to be produced from the smaller groups that are split off, so if the molecular structure is such that many small groups are present, the volume of gas formed is comparatively large. This condition will be preflected in the vapor pressure of the distillate and the volume of gas produced under fixed conditions.

A high antiknock rating of a gasoline does not always mean that this property is due to the presence of aromatics. The cracked gasolines usually contain some aromatic compounds, the vapor phase product having a higher aromatic content than the liquid phase gasoline.

Waters Associated With Petroleum Are Usually Heavy

Could you furnish examples showing the chemical composition of the water found in connection with the production of oil and gas? Any references to additional analyses of this character will be appreciated.—H. W.

The oil field waters are generally heavily mineralized, the specific gravity and composition being such that they are commonly classified as brines. In many respects they resemble sea water but most of them are much more concentrated. The oil field waters are of the same general composition, as to the kind of mineral salts present, although the precentage of the several compounds present may vary to a considerable degree.

Examples are of the waters from Borger and Luling, Tex.

COMPOSITION OF OIL BRINES

Water from—	Parts per million Borger	Luling
Calcium	4,729	932
Magnesium	1,647	498
Sodium	66,028	3,792
Bicarbonate	128	1,101
Sulphate	1,930	913
Chloride	112,473	7,375
Total solids	187,934	14,521
Specific gravity	1.132	1.010
Dissolved hydrogen sulphide	29 p.p.m.	....

Note: These analyses are from Bureau of Mines R.I. 2,066 and 3,059.

Another analysis of a water from Cleveland, Oklahoma, illustrates the general similarity of this class of waters. Although widely separated as to source, the analyses of the Borger and Cleveland samples do not differ to a great extent.

COMPOSITION OIL WELL BRINE CLEVELAND, OKLAHOMA

	Parts per million
Aluminum	1,448
Calcium	12,573
Magnesium	721
Sodium	54,400
Chloride	113,617
Sulphate	224
Total solids	182,932

The waters from oil wells are usually heavy, containing over 10 per cent solids but there are some exceptions. Reistle reports a water from the Salt Creek Field, Wyoming, which contains 3,267 parts per 1,000,000 total solids.

The U. S. Bureau of Mines prepares a bibliography of petroleum and allied substances, usually published every other year, which contains references to articles about the composition of oil well waters. These contain much information on the subject, mentioned simply as examples.

Data of Geochemistry, by F. W. Clark; a bulletin of the U. S. Geological Survey.

Identification of Oil Field Waters, by C. E. Reistle, Jr., U. S. Bureau of Mines Tech. Paper 404.

Composition and Utilization of Natural Brines, U. S. Bureau of Mines, Bull. 146.

Waters Associated With Petroleum and Natural Gas, by Van Mills and Wells, U. S. Geological Survey, Bull. 693.

Underground Conditions in Oil Fields, by A. W. Ambrose, U. S. Bureau of Mines, Bull. 195.

Solar Oil Is a Fuel Oil of the Gas Oil Type

Is solar oil a trade name for a special kind of domestic fuel oil? Can you furnish an analysis or the necessary test showing the characteristics of solar oil?—A. W. E.

Solar oil is considered to be a high grade fuel oil which is extensively used as a source of heat, in addition to its use in gas engines, manufacture of gas and as a cracking stock. It is the fraction distilled from petroleum after the kerosene is taken off, commonly called gas oil.

One refiner supplies solar oil under the following specification:

PROPERTIES OF SOLAR OIL

Gravity, °A.P.I.	30–36
Color N.P.A., max.	4
Flash closed, °F. min.	150
Sulphur, per cent, total	0.5
Pourpoint, °F., max.	15
Distillation, E.P., °F.	700
Heating value, per pound	19,400

While gas oil is an unrefined product, not treated in any way, the color and other properties of the gas oils marketed may range to a considerable extent. Solar oil is usually sold under somewhat restricted specifications, as indicated in the example given. Several authorities define solar oil as the gas oil derived from petroleum produced in the Mid-Continent district or the Gulf Coast district.

Diphenyl as Heat Transfer Medium for Heating Asphalt

What is the material diphenyl which is offered as a heating medium for use in the handling of heavy road oils and asphalts? Also, how is it used in this work?—C. J. H.

The properties of the chemical substance diphenyl are described, in connection with its use for the heating of asphalt, by W. L. McCabe, in Engineering Research Bulletin No. 23, University of Michigan. The material given here is from this bulletin.

Diphenyl is a nonpoisonous waxy solid at room temperature with a distinctive geranium-like odor. It melts at 156° F., and boils under normal atmospheric pressure at 492° F. At 100 pounds per square inch gauge, its boiling temperature is 705° F., and at 150 pounds per square inch gauge its boiling temperature is 756° F.

The material is remarkably stable chemically, and is absolutely noncorrosive to ordinary materials of construction. Unlimited quantities are available at a cost of about 17 cents per pound in carload lots. Liquid diphenyl is pumped and transported in the same manner as any liquid, and as a liquid its viscosity is low. Although certain precautions with respect to joints and pump stuffing boxes are necessary, diphenyl liquid or vapor can be handled in practically the same manner as steam or water. When heated by direct fire, diphenyl must be kept in positive circulation, but if this precaution is taken, it can be heated very rapidly without danger of decomposition. It can be used under commercial conditions at 750° F. with substantially no deterioration with use. Its flashpoint is high enough so that, with ordinary precautions, the fire risk is negligible.

After being heated to the required temperature the hot liquid or vapors may be circulated through a coil of pipe placed in the heating tank in the same manner that hot water and steam are circulated. A simple boiler of the pipe still type may be used for heating the diphenyl and then the vapor circulated at a rate sufficiently high to maintain the desired temperature in the oil or asphalt.

Penetration Oils Have Low Viscosity and High Capillarity

What is the composition of penetration oils and what is the essential principle governing their use?—R. W. B.

Penetrating oils are of varying composition usually containing a volatile liquid in which the lubricant is dissolved. Sometimes alcohol or benzol is the solvent but usually the light fractions of petroleum, gasoline or kerosene are used.

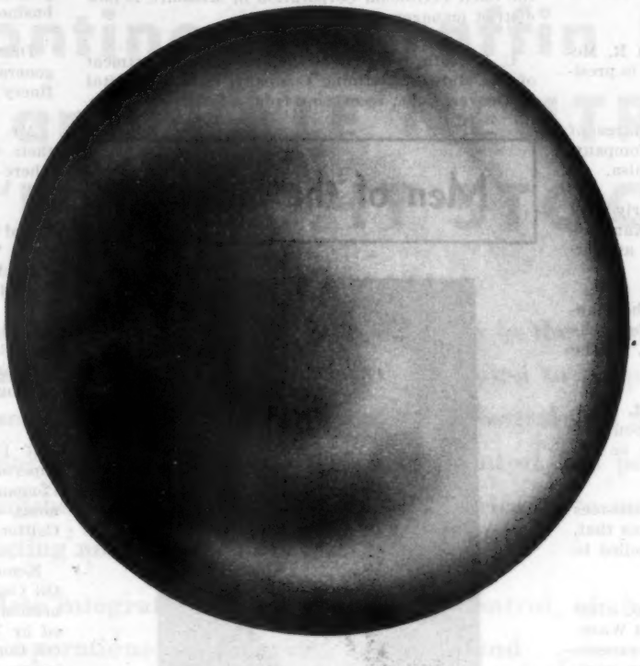
The lubricating oil is of low viscosity, say about 100 at 100° F. and sometimes a small quantity of grease is dissolved in the oil.

The principle covering the use of penetrating oils, is that the liquid of low viscosity but of high capillarity will penetrate between the parts, such as the leaves of a spring, and upon the evaporation of the volatile portions will leave as a residue a coating of the lubricant.

Extended experiments should be made in order to arrive at the composition of a suitable penetrating oil. The important consideration is that the liquid will remain stable with no appreciable separation on standing.

USE TRANSIT » » » » HOLLOW BALLS

To replace solid steel balls



PRICE

Quantity production permits very reasonable prices.

HARD SURFACE

Stainless Steel Hollow Balls . . . 400 Brinell.
Carbon Steel Hollow Balls . . . 650 Brinell.

TOUGH STRUCTURE

Forging operations and heat treatments render the metal in TRANSIT Hollow Steel Balls very tough.

In valve service, they are capable of withstanding pressures of 1,000 pounds to the square inch and upwards, depending, of course, on the size.

Also capable of sustaining heavy crushing loads without harmful deformation.

LIGHT WEIGHT

Only a fraction of the weight of solid balls.

ACCURACY

Sizes above 3"—Specified diameter within plus or minus .015".

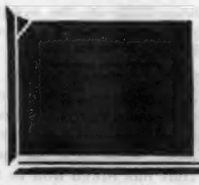
Sizes 3" and smaller—Specified diameter within plus or minus .005".

BALANCE

Inherently balanced . . . no welding icicles to unbalance the ball and no plugs to loosen and leak.

SIZES

1" to 8". All ground to size and polished.



PHOENIX, ARIZ. Pratt-Gilbert Co.
SALT LAKE CITY, UTAH P. C. Richmond Machinery Co.

NATIONAL TRANSIT PUMP & MACHINE CO.
OIL CITY, PA.

LOS ANGELES Republic Supply Company of California
ST. LOUIS, MO. Reeves & Skinner Machinery Co.

New York Chicago Cleveland Pittsburgh Los Angeles Houston Tulsa

PERSONAL PARAGRAPHS

Arthur S. Martin, of Santa Ana, Calif., is now in Amarillo, Tex.

• • •

Vaughn W. Russom, geologist, Fort Worth, Tex., is now in Palestine, Tex.

• • •

George Matson, consulting geologist, Tulsa, has just returned from a business trip to Washington, D. C.

• • •

E. G. Woodruff, consulting geologist, Tulsa, is again in Tulsa after nearly a month's business trip to Washington, D. C.

• • •

A son was born to Mr. and Mrs. Joseph R. McGraw of Tulsa, November 19. Mr. McGraw is president of the McGraw Oil Company.

• • •

Alex M. Alexander, who has been in charge of magnetic work for Empire Oil Refining Company, has resigned, to become a consultant in Tulsa.

• • •

James F. Muller, refinery engineer, formerly with the Dickey Oil Company at McPherson, Kans., is now with the Shell Petroleum Corporation at Norco, La.

• • •

W. J. Dykeman, Jr., division auditor for the Stanolind Oil & Gas Company, Fort Worth, Tex., has been in the Midwest offices at Casper, Wyo., for the past several weeks.

• • •

Carroll H. Wegemann, consulting geologist, Baltimore, Md., gave a very interesting lecture upon Nicaragua before the Tulsa Geological Society on the evening of November 21.

• • •

D. Elliott Alves, chairman of the voting trustees of British Controlled Oilfields, Ltd., announces that, for reasons of ill health, he has been compelled to resign from all public duties.

• • •

Roy Holloman has returned to Denver, Colo., after spending several weeks in western and central Washington on a geological survey. Mr. Holloman expects considerable drilling activity in Washington next year.

• • •

George M. Bevier, formerly chief geologist of the Pure Oil Company at Houston, Tex., and who for the past year has been looking after extensive holdings in the Conroe Field, has established offices in the Sterling Building, Houston.

• • •

Walter F. Perkins, who has been manager of the Harrison, N. J., works of the Worthington Pump & Machinery Corp. since 1927, has resigned to become vice president and general manager of the Bartlett Hayward Co., Baltimore, Md. He is succeeded by Hugh Benet, formerly manager of Worthington's Holyoke, Mass., works.

• • •

J. H. Jenkins of San Francisco, Calif., in charge of production, geological, engineering and land departments of Associated Oil Company in California, was a visitor at the Fort Worth, Tex., offices of Tidal Oil Company. He formerly was vice president of Tidal Oil Company and manager of the Texas division. While in Fort Worth, Mr. Jenkins conferred with J. R. Gahan, manager of Tidal's Texas division.

• • •

Dr. Irving Langmuir, assistant director of the research laboratory of the General Electric Company at Schenectady, New York, has been awarded the Nobel prize in chemistry. Among the many contributions made by Doctor Langmuir is one that is now being studied by lubrication experts. This is the suggestion that when a metal element, such as a bearing or shaft, is lubricated with grease or oil a layer is formed on the surface of the metal which consists of a chemical compound made up of metal and oil. Doctor Langmuir estimates that this film is one molecule thick.

H. E. Horn, of Collins, Miss., has moved to San Antonio Tex.

• • •

J. F. Baum, of Salina, Kans., has gone to Los Angeles, Calif.

• • •

Guy Crisman, assistant division superintendent, Gulf Pipe Line Company, at Beaumont, Tex., has gone to Overton, Tex.

• • •

N. M. Bassett, formerly city manager of sales of the Shell Petroleum Corporation in Missouri, is now district manager at St. Louis.

• • •

C. M. Rath, formerly in the geological department of the Midwest Refining Company, is in a hospital in Denver, Colo., recovering from a fall from a tree.

Men of the Industry

RICHARD A. SPERRY

Richard A. Sperry, vice president of the General Petroleum Corporation, was born in Sausalito, Calif., across the bay from San Francisco. He attended the public schools and Belmont Military Academy. His first experience in the oil industry was ditch digging in the Kern Field in 1902. Soon he was a member of a well tubing gang. After about a year in South Africa he returned to California in 1906 when the Coalinga boom was on. About this time the General Petroleum Corporation, for which he had been working, wanted a man to take charge of its operations in the Midway, Belridge and Lost Hills districts in Kern County. Mr. Sperry was chosen. He was covering 100 miles a day in a battered old automobile, looking after 10 widely scattered strings of drilling tools, when Murray Doane, whose company had just opened up the big Shumway farm in Eldorado, Kans., engaged him to handle big wells that were coming in.

When the Texas Pacific Coal & Oil Company wanted a man to take charge of its oil operations in the Ranger Field in Texas, Mr. Sperry was the man selected. Next came a call from his old friends in the General Petroleum Corporation of California to go to Mexico as general manager of the Continental Mexican Petroleum Corporation, a subsidiary. This was in 1922 and Mr. Sperry continued to rise till he became vice president, in full charge of operations. He likes hunting, fishing and motoring.

W. D. Mercer, independent producer, of Longview, Tex., is in Lake Charles, La.

• • •

G. L. Knight, of the Argus Pipe Line Company, has moved from Dodge City, Kans., to Omaha, Neb.

• • •

G. W. Sweet, general superintendent of the South Chester Tube Company, South Chester, Pa., is in Tulsa on business.

• • •

W. H. Ferguson of Denver, Colo., executive vice president of the Continental Oil Company, is on a business trip to Europe.

• • •

Dr. William J. McGill has been made assistant general superintendent of the Wood River (Ill.) refinery of Standard Oil Company (Indiana).

• • •

Mr. and Mrs. L. M. Kiplinger have returned to their Casper, Wyo., home from Pasadena, Calif., where they were called recently by the death of their son.

• • •

Ted Larkin, engineer for the Happy Belting Company, Tulsa, is making a trip through Texas fields with A. F. Nixon, vice president and Texas representative for the company.

• • •

Carl F. Young, formerly of the Midwest Exploration Company, Casper, Wyo., has been made purchasing agent for the Stanolind Oil & Gas Company, moving to the Fort Worth, Tex., offices of the company.

• • •

R. D. McPherrin of Imperial, Calif., for a time superintendent of operations for the Rainbow Oil Company in the LaBarge Field in southwestern Wyoming, was elected to the state supreme court in California.

• • •

Kenneth R. Kingsbury, president of the Standard Oil Company of California, is in New York in connection with the "share-the-work" movement, headed by Walter C. Teagle, president of the Standard Oil Company (New Jersey).

• • •

George H. Jaques, formerly director and general superintendent of the producing department of Midwest Refining Company, has been chosen a vice president of Stanolind Oil & Gas Company and continues his headquarters at Denver, Colo.

• • •

W. A. Brownlee, executive vice president of the Exchange National Bank of Tulsa, has been elected president of the Central State Bank of Tulsa, succeeding the late Harry G. Hendricks. Mr. Brownlee, one of the State's most prominent bankers, will retain his position and duties at the Exchange National Bank, giving additional general supervision to the affairs of the Central State Bank.

• • •

T. Dewhurst, A.R.C.Sc., F.G.S., has been elected to succeed James Kewley, M.A., as president of the Institution of Petroleum Technologists in the coming year. Mr. Dewhurst is well known for his geological researches. He joined the Burmah Oil Company, Ltd., in 1910, and was in Burmah until 1916, after which his headquarters were at Rangoon, where he remained until 1922 as the company's senior geologist. Since that year he has been at the London offices as chief geologist.

• • •

Dr. F. H. Lahee, president, American Association of Petroleum Geologists, addressed the members of the association in Tulsa on November 23. Doctor Lahee has been on a trip in the interests of the association that has taken him to San Antonio, Tex., Los Angeles and San Francisco, Calif., Calgary, Canada, Denver, Colo., and Oklahoma City, Okla. At each city he addressed members of the association upon matters of general interest. The trip was made possible through the generosity of J. Edgar Pew, president of the Sun Oil Company.

A PURE OIL SPECIALTY

Midcontinent Paraffin Base RED and PALE NEUTRALS and "D" BRIGHT STOCK...

Pure Oil's Muskogee, Oklahoma, Refinery in the heart of our Midcontinent producing fields, is ideally situated to supply your requirements of paraffin base Red and Pale Neutral Oils and "D" Bright Stock. Our modern compounding plant at this point can deliver finished motor oils and industrial lubricants to meet your most exacting needs.

Complete integration gives us absolute control, of the entire cycle of operations—producing, refining, and transporting. Scientific laboratory control assures constant adherence to rigid specifications. More than a third of a century of refining experience is behind every product.

Wire, phone or write nearest sales office for specifications and prices. Your order will receive prompt attention and delivery on the dot.

REFINERIES:
Marcus Hook, Pennsylvania
Cabin Creek Jct., West Virginia
Heath, Ohio
Ardmore, Oklahoma
Muskogee, Oklahoma
Smith's Bluff, Texas
Toledo, Ohio
Midland, Michigan

SALES OFFICES:
Chicago, Illinois
New York, New York
Minneapolis, Minnesota
Philadelphia, Pennsylvania
Pittsburgh, Pennsylvania
Columbus, Ohio
Charleston, West Virginia
Norfolk, Virginia
Atlanta, Georgia
Jacksonville, Florida
Tampa, Florida
Miami, Florida
Pensacola, Florida
Tulsa, Oklahoma
Beaumont, Texas

PRODUCERS, REFINERS, MARKETERS OF A COMPLETE LINE OF PETROLEUM PRODUCTS

THE PURE OIL COMPANY ~ U. S. A.

NATURAL GAS DEVELOPMENTS

Natural Gas Outlook Encouraging as Seen by Jersey Company

That figures are often deceiving is hardly a new observation. So it is not altogether surprising that anyone with sufficient curiosity to dig a little into the natural gas statistics for 1931 recently published by the Bureau of Mines should come upon an entirely different picture than that indicated by a mere glance at the production figures, says the Standard Oil Co. (New Jersey) in "The Lamp."

"Natural gas production last year amounted to about 1.68 trillion feet," the Lamp says. "That is 13 per cent below the 1930 output and since it is the first year within the past decade—depression or no depression—that the use of this commodity has failed to show an expansion, the news might be taken as discouraging. As you go further into the report, however, you find that the drop in total production is due almost entirely to a sharp falling off in natural gas demand for field purposes and for the manufacture of carbon black. That these phases of the industry should show a decline is no more than natural. Only 12,000 oil and gas wells were completed in 1931 compared with 21,000 the year before, with a result that the quantity of natural gas used for such purposes dropped off 21 per cent. Overproduction and low prices, the report explains, forced producers of carbon black to restrict their operations last year so that natural gas used in this line declined 27 per cent.

"But look at the other side of the picture. Here is the amount of natural gas served to domestic and commercial consumers showing an increase of 1.2 per cent. While the amount so consumed was only 23 per cent of the total—380.9 billion feet—it is a really notable achievement that use of the ideal fuel by home and industry should gain in a period of general business depression. Moreover, the number of domestic and commercial consumers—which, by the way, has grown steadily since 1906—rose to nearly 7,000,000 in 1931, a rise of 28 per cent.

"Likewise encouraging is the growth in natural gas consumption by electric power plants. This came to 138 billion feet, an increase of 15 per cent. General industrial uses, amounting to 19 per cent of the total consumption, likewise showed a gain.

"Texas continued to outrank other states during 1931 both in the production and consumption of natural gas, though Ohio leads in the quantity sold for domestic and commercial use."

MEMPHIS, TEX., RATE

MEMPHIS, Tex., Nov. 28.—An ordinance prescribing the maximum prices and rates at which natural gas may be sold in this city has been passed by the city council. The rates are based upon an appraisal by F. M. Guin, engineer.

The maximum rates called for by the ordinance are as follows: First 25,000 feet of gas per month, 40 cents per 1,000; the next 75,000 feet, 26 cents per 1,000; next 100,000 feet, 20 cents per 1,000, and the next 300,000 feet, 16 cents per 1,000.

ASKS FOR RECEIVERSHIP

DENVER, Colo., Nov. 28.—Judge M. A. Otero, Jr., in the district court at Santa Fe, N. Mex., has directed the Albuquerque Natural Gas Co. to show cause why it should not be placed in receivership. This action was taken on the application of the Angel Peak Oil Co. Defendants named are the Albuquerque Natural Gas Co., the Southern Union Gas Co. of Dallas, the Northern Trust Co. of Chicago, T. F. Murchison, Walter Reid, W. T. Westmoreland, G. W. Murchison, Wofford Cain, Lee Moore, Albert T. Woods, L. G. May and E. M. Closult, officers and directors of the company.

The Albuquerque company is a subsidiary of the Southern Union Gas Co. which in 1930 constructed a 300-mile natural gas line from the Bloomfield and Kutz Canon districts in northwestern New Mexico to Albuquerque and Santa Fe for that company and projected a 75-mile extension to Las Vegas. It purchases gas from the Angel Peak and other companies.

Competing Natural Gas Cuts Coal Consumption

The commercial production of bituminous coal in the United States decreased from 535,000,000 tons in 1929 to 378,000,000 tons in 1931. This decrease has been due to some extent to the lessened demand for coal that has resulted from the competition of gas, oil and electric power. The extent of the decrease due to competition of other fuels, as computed by the U. S. Bureau of Mines, is shown in the following table:

Commodity	Total power from mineral fuels and water power, % 1919	1930
Bituminous coal	64.6	51.1
Natural gas and oil	17.9	33.2
Water power	4.7	7.8

The loss in annual consumption of coal between the years 1919 and 1929 due to substitutes for coal, as given in the hearings before the last Congress on the plan for a bituminous coal commission, was estimated as follows:

	Tons
Hydroelectric power substituted for	17,000,000
Gas and fuel oil substituted for	61,500,000
Natural gas substituted for	43,000,000

In other words, the consumption of coal in 1929 would have been 122,000,000 tons greater had these substitutes not been used. An additional 100,000,000 tons decrease was accounted for by economies in the smelting of iron and the use of by-product coke, in addition to ther similar improvements in methods in the industry. Economies by steam railroads in coal consumption would have called for 31,000,000 tons more coal in 1929 had the improvements not been made. Electricity generating power plants would have used 47,500,000 tons more coal on the basis of 1919 development. All told, the total demand in 1929, based on activities as carried out in 1919, would have called for a total of 835,000,000 tons of coal in 1929 as compared with the actual consumption of 535,000,000 tons.

It has been estimated that coal at $4.25 a net ton is equivalent to natural gas at 14 cents per 1,000 feet, or oil at about $1 a barrel.

GUTHRIE RATE REDUCED

GUTHRIE, Okla., Nov. 28.—Gas rate is now 35 cents, the Western Service Corp. having obtained Federal court authorization for a reduction from the present 45-cent rate. Logan Cary, receiver, said the reduction was needed for the protection of the Western Service lines, competing with the Guthrie Gas Co.

EL DORADO RATES

EL DORADO, Ark., Nov. 28.—The city council will face another gas rate fight on December 1 when official notice of the Public Utility Corp.'s plea for increased gas rates in El Dorado will be presented. The company will ask for a "substantial increase in rates in spite of the fact that the city council recently passed an ordinance reducing rates 20 per cent after an investigation of the company's property values and investments.

Hearing on the city's motion for dismissal of the temporary injunction against enforcing the reduced rate has been postponed until the next term of the U. S. District Court.

SAN ANGELO RATE

SAN ANGELO, Tex., Nov. 28.—Thirty-one cents per 1,000 feet is a fair rate for natural gas delivered at the San Angelo city gates for domestic consumption, an engineer of the Texas Railroad Commission reported.

San Angelo is served by the Texas Public Service Co. No gate rate now exists, the company both transporting and distributing the fuel and maintaining a united service from the wells to the burner tip.

The 31-cent rate, therefore, is purely hypothetical and is intended solely as an aid to San Angelo city officials in determining whether the city should appraise and audit the distributing system within the city to determine whether an ordinance setting up a lower schedule of rates for domestic gas should be enacted.

Ernest O. Thompson, member of the Railroad Commission, said the figure did not represent the opinion of the commission but only the finding of one of its engineers.

ENDS SEVEN-YEAR CASE

A domestic gas rate was fixed at Poteau, Okla., at 38 cents per 1,000 feet for the first 50,000 feet by order of the State Supreme Court upon agreement of litigants, the city of Poteau and the American Indian Oil & Gas Co., ending a seven-year controversy. The rate becomes effective December 1. The corporation commission fixed the rate at 40 cents per 1,000 feet in 1928.

Gas Revenues Decline in Consumers and Sales

Revenues of manufactured and natural gas utilities totaled $44,048,759 in September, a decline of 6 per cent from the $46,947,307 for September, 1931, according to data received by the American Gas Association from companies representing more than 90 per cent of the public utility distribution of manufactured and natural gas.

As of September 30, customers of the reporting companies aggregated 13,875,511, compared with 14,271,954 on the corresponding 1931 date.

Revenues of the manufactured gas companies aggregated $29,123,431 for the month, a drop of 5.2 per cent from a year ago. The natural gas utilities reported revenues of $14,925,328, which were about 8.1 per cent under the figures for September, 1931.

Sales of manufactured gas reported for September totaled 26,193,700,000 feet, a decline of 5 per cent, while natural gas utility sales for the month were 41,060,241,000 feet, a decline of 11.2 per cent.

This decline in sales volume appeared to characterize practically all sections of the country, although not to the same extent. In New England September sales were 5 per cent under a year ago, while in the Middle Atlantic states the decline amounted to 3.5 per cent. The most marked curtailment in manufactured gas sales occurred in Illinois, Indiana, Michigan, Ohio and Wisconsin. Total sales for September were down more than 6 per cent from a year ago, the result in large part of a drop of some 18 per cent in sales to industrial-commercial users.

Bonds for City Plant Rejected by Detroit; Resume Negotiations

DETROIT, Mich., Nov. 28.—A proposal for a $2,000,000 bond issue which would have put the city into the natural gas business was rejected by Detroit voters. The defeat of that proposal clears the way for the Detroit City Gas Co. to bring natural gas to Detroit as soon as satisfactory arrangements can be made.

This company has publicly offered to purchase natural gas from Michigan fields, provided that responsible parties will give satisfactory guarantee to deliver natural gas to its system in specified quantities at Detroit City gates. This offer has been outstanding for the past several months and to date no bid has been received, the company states.

In the absence of such bids William G. Woolfolk, president of the company, states negotiations have been resumed for a supply of natural gas from other sources known to be dependable and adequate. As soon as financial conditions permit active measures will be taken to effect final arrangements to that end.

Casper Council Rescinds Ordinance to Buy System

CASPER, Wyo., Nov. 26.—The city council of Casper, Wyo., has voted to rescind its ordinance to buy the natural gas distributing system of the New York Oil Co. The action followed announcement that Judge C. D. Murane in the Natrona County District Court had granted an extension for 30 days for the city to make known its definite intention of authorizing a purchase of the system as a means of obtaining a declaratory judgment defining the property rights of the New York Oil Co. which might enter into the sale of the system.

In the 30-day period it is expected that a contract will be drawn by the city of Casper for submission to the Lakota Oil & Gas Co. of Minneapolis defining the terms under which the city will do business with the Lakota company in the event that the city should take over the gas distributing system. The contract will call for assurance of an adequate supply of gas and financial responsibility on the part of the Lakota and definite terms in the way of an operation agreement.

ASK GAS RATE CUT

Citizens of Granite and Mangum, Okla., have filed application with the corporation commission for a reduction of gas rates charged by the Consolidated Gas Service Co. The present rate is 25 cents per 1,000 feet. Reduction of the gate rate would be reflected in a similar reduction in the burner tip rate. Hearing was set for December 14.

REJECTS MUNICIPAL PLANT

PARSONS, Kans., Nov. 28.—Voters rejected 3,964 to 2,110 a proposition to issue $325,000 in bonds for the construction of a municipal gas plant. Mayor Alfred Coad sponsored the proposition in his attempt to obtain lower rates from the Union Public Service Co.

NEW ILLINOIS LINE

SPRINGFIELD, Ill., Nov. 28.—Applications of the Central Illinois Natural Gas Co., for a certificate to construct and operate a natural gas pipe line in Sangamon, Morgan and Cass County cities and villages, and for authority to issue and sell $125,000 in stock, will be heard December 7.

Pipe Fittings

KENNEDY Cast Iron Flanged Pipe Fittings and Kennedy Malleable Iron Screwed Pipe Fittings have enabled many a pipe fitter and machinist to make records in connecting up pipe lines quickly, accurately and without make-over. Their sound, flawless metal, their accurate machine work, and their true alignment of flanges and threads, all help to speed up pipe fitting jobs and assure satisfactory workmanship.

Kennedy Fittings are made in all standard types and sizes and can be obtained from your local supply house. The Kennedy catalogue gives complete lists of these fittings and also describes the many Kennedy Valves for every oil industry service. Write for your copy today and be sure to specify "Kennedy" for your next valve and fitting requirements.

Send for the Kennedy Catalog

The Kennedy Valve Mfg. Co.
Elmira, N. Y.
Branches in principal cities

KENNEDY
VALVES-PIPE FITTINGS-FIRE HYDRANTS

The Utmost Delicacy of REGULATION

CF

A HIGH and variable inlet pressure can be reduced to a low and unvarying outlet pressure by the specially designed and precisely made Fulton Duplex Sensitive Gas Governor. A mixture of natural and manufactured gas can be controlled with extreme accuracy and with perfect assurance. Frictional surfaces reduced to a minimum, diaphragm area extraordinarily enlarged, and non-corroding materials scientifically adapted to their use, account largely for the success of this dependable appliance. Extremely simple. Easily and quickly installed. No accessories to give trouble. Ask for full description.

The Chaplin-Fulton Manufacturing Company
28-40 Penn Avenue **Pittsburgh, Pa.**

REPRESENTATIVES:

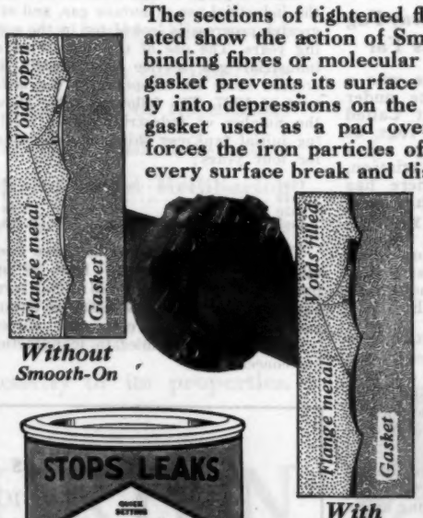
WESTCOTT & GREIS, Inc., *Sales and Service* Dallas—Tulsa
C. H. COLLINS 628 Dwight Bldg. Kansas City, Mo. Or Any Jobber
HIMELBLAU, AGAZIM & CO., 228 N. LaSalle St. Chicago, Ill.

Fulton Duplex Sensitive Gas Governor

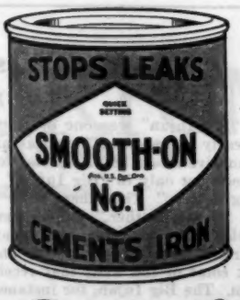
The joint filling of Smooth-On No. 1 is more important than the gasket

SMOOTH-ON No. 1 at a cost of possibly a cent or two more per joint, usually averages repaying at least a dollar or two in lessened line maintenance attention.

The sections of tightened flanged joint exaggerated show the action of Smooth-On No. 1. The binding fibres or molecular attraction within the gasket prevents its surface from reaching deeply into depressions on the flange face—but the gasket used as a pad over Smooth-On No. 1 forces the iron particles of the latter deep into every surface break and distributes the remaining Smooth-On to true up the contact face. Then after the Smooth-On sets, its iron particles are there to stay, as they cannot shrivel, shrink, dry or blow out.



Without Smooth-On *With Smooth-On*



Get Smooth-On No. 1 in 7-oz., 1-lb. or 5-lb. can from any hardware store or if necessary, direct from us.

SMOOTH-ON Mfg. Co., Dept. 66
570 Communipaw Ave., Jersey City, N. J.
Please send copy of SMOOTH-ON HANDBOOK.
Name.....
Address.....
12-1-32

***Do it with* SMOOTH-ON**

FIELD PROBLEMS FROM READERS

Edited by Thomas F. Smiley

This department is conducted in order that men connected with the drilling, producing or transporting branches of the petroleum industry may obtain aid in solving problems that confront them in their work. Readers are invited to send questions freely. These questions will be placed in the hands of persons capable of answering them authoritatively, and the answers, based on the best available information, will be published.

Each question should give as much detail as possible, especially if it involves depth of sands, types of sands and operations on adjoining or nearby properties. The source of questions will be considered confidential, and only the initials of the sender will be published. Questions involving patented processes, intricate formulas or estimates of cost cannot be answered. If an immediate answer is important, one will be given by mail when the writer requests it.

In this connection, The Oil and Gas Journal will be glad to publish articles from field men who have devised new methods or improved old ones.

Seeks Meaning of Terms Used in Discussion of Well Casing

In a discussion of oil well casing I find several terms which are not wholly clear to me. Perhaps you will be good enough to explain their meaning. I would like to know the meaning of hole clearance, pipe clearance, clearance ratio and setting depth. I would like clear definitions too of oil string, water string and surface string.—L. L. F.

Hole clearance is the space between the diameter of the drilled hole and the outside diameter of the pipe couplings, this being half the difference between the diameter of the open hole and the outside diameter of the couplings on the casing set or to be set in the hole. In the case of flush joint or stovepipe casing, the outside diameter of the casing is considered, and with slip joint casing the outside diameter of the bell end is used in determining clearance ratios.

Pipe clearance is the space between the inside of a casing string and the outside diameter of the pipe couplings of a casing string contained within it or half the difference between the two diameters.

Clearance ratio is the relationship between the hole clearance and the diameter of the open hole expressed as a ratio.

Setting depth is the depth to which casing is set.

The oil string is the casing string extending into the oil sands and set for the purpose of obtaining production.

The water string is the casing string set above the oil-bearing formations for the purpose of excluding water. There may be several water strings.

The surface string is the first string of casing set. This may also be a water string.

No Method of Clearing Away Fog Seems Practicable Thus Far

Several months ago there was a paragraph in your magazine under the heading, "Why Was It Called That?" explaining pea-soup fogs, as they are termed. Heavy fogs are a cause of much trouble in aviation, and I am wondering if there has been any experimenting with a view of breaking up fogs. Can you tell me? You may not consider this an oil field problem, but aviation is so closely allied to the oil industry that maybe you will be good enough to answer my question.—A. S. E.

For the answer to your question here given this department is indebted to the national advisory committee for aeronautics, whose membership is composed of aviation and meteorological authorities in all the government departments in Washington:

From experiments thus far conducted there is little promise for the development of a commercial method of clearing away fog, although it is possible to clear away enough for certain exigencies in cases where the question of cost is not of primary importance.

The three principal methods of fog dispersal to which consideration has been given by the committee are: First, to sprinkle a quantity of hygroscopic material through the fog; second, to have a number of airplanes scatter electrified sand or other electrified particles through the fog; and third, to heat the air sufficiently to cause evaporation of the fog.

Butane Gas Is Found Practical in Cutting and Welding Uses

It was announced within recent years that butane gas was being introduced into several industries both for purposes demanding intense heat and even as a substitute for natural gas in certain conditions. I have not seen much since then to indicate whether the butane gas has been adopted with success in any of the fields where it was expected to make practical industrial use of it. Can you tell me anything about the progress made in finding practical uses for butane gas? I am more especially interested in knowing what success has been met in the use of this gas as a cutting fuel.—S. T. N.

Marked progress has been recorded in the industrial use of butane gas, and still greater progress is looked for in the coming years. The use of G-4 butane as an industrial gas service has rapidly increased since its inception in the latter part of 1927. The following table shows the number of industrial plants receiving initial tank car shipments of butane for four years:

1928	5
1929	7
1930	13
1931	38

The increase in gallons has been from approximately 170,000 in 1928 to approximately 5,650,000 in 1931. This large and increasing industrial usage of butane gas represents both directly and indirectly major fuel economies to manufacturing concerns.

G-4 butane is reported to have been found highly satisfactory in connection with oxygen for oxy-butane cutting and for light oxy-butane welding. In a paper delivered before the Compressed Gas Manufacturers Association, G. R. Benz, of the industrial gas division of the Philgas Co., said on this point:

"Some special uses of G-4 butane found to be highly satisfactory are in connection with oxygen for oxy-butane cutting either by hand or machine torches, and for oxy-butane welding of very light stock. Several leading automobile body manufacturers are using G-4 butane and compressed air through hand torches for brazing, soldering and local or spot annealing with much success, having replaced city gas and some acetlyene.

"The inflammable range for G-4 butane (1.9 to 8.4) is much less than for city gas, which results, on torch work, in close attention of the operator in obtaining the proper and most efficient air-gas ratio. With G-4 butane, the flame is necessarily efficient when it is satisfactory; however, with city gas the flame may be quite satisfactory over a large portion of the inflammable range, but is only efficient within narrow limits, consequently the operator inadvertently wastes considerable gas.

"Plant engineers who have used both G-4 butane and city gas estimate from 5 to 15 per cent less B.t.u. required over a long period of time for hand torch work. A very hot flame is produced with G-4 butane and compressed air, particularly with some of the standard types of gas and compressed air torches that are now available, and which have been successfully modified to handle G-4 butane of 3,200 B.t.u. per cubic foot."

As for the use of butane gas as a substitute for natural gas it may be said that such use is recommended only for standby purposes where the supply of natural gas may be shut off temporarily in case of shortage.

In The Oil and Gas Journal of April 7, 1932, you will find an article on "Industrial Uses for Liquefied Gases," by Mr. Benz which should be of special interest to you.

Boilers Used in California and Oklahoma City Oil Fields

I would like to obtain information regarding boilers used in the Oklahoma City Field. What type is most widely used? What are the working pressures and temperatures? What type of superheaters are used? How much steam is necessary for an average day's drilling? How many boilers to a rig? I also would like the same information for 10,000-foot holes, such as they are drilling in California.—R. I. J.

The following facts with reference to boilers in the Oklahoma City Field were obtained from a report of the test on a typical steam equipment installation in that field, prepared under the supervision of William H. Carson, of the mechanical engineering department of the University of Oklahoma for the A.S.M.E. research committee:

The type of boiler used largely in the Oklahoma City Field was of 125-horsepower capacity saturated steam boilers. Three or four boilers were used in a battery at each well connected to a common header.

Steam pressures varied from 180 to 250 pounds and temperatures can be checked by reference to any engineering handbook. A table giving the working pressures under various conditions of operation is given in Mr. Carson's report a copy of which you probably can obtain.

Superheaters consisting of a header with two compartments, one the distributor for the saturatel steam from the boiler, the other for the collection of the steam after it has been superheated; several lengths of steel tubing with return bends, connecting pipe between boiler dome (saturated steam) and header, safety valve and bleeder valve were used. This type of superheater is described and illustrated in Jeffery's "Deep Well Drilling."

The quantity of steam required for a day's drilling is given in detail in Mr. Carson's report and the water, steam and gas requirements are summarized as follows:

Water to location, 313,000 pounds.
Water to boiler, 183,000 pounds.
Steam to drilling engine, 41,700 pounds.
Steam to slush pump, 76,600 pounds.
Gas to boiler, 247,000 cubic feet.

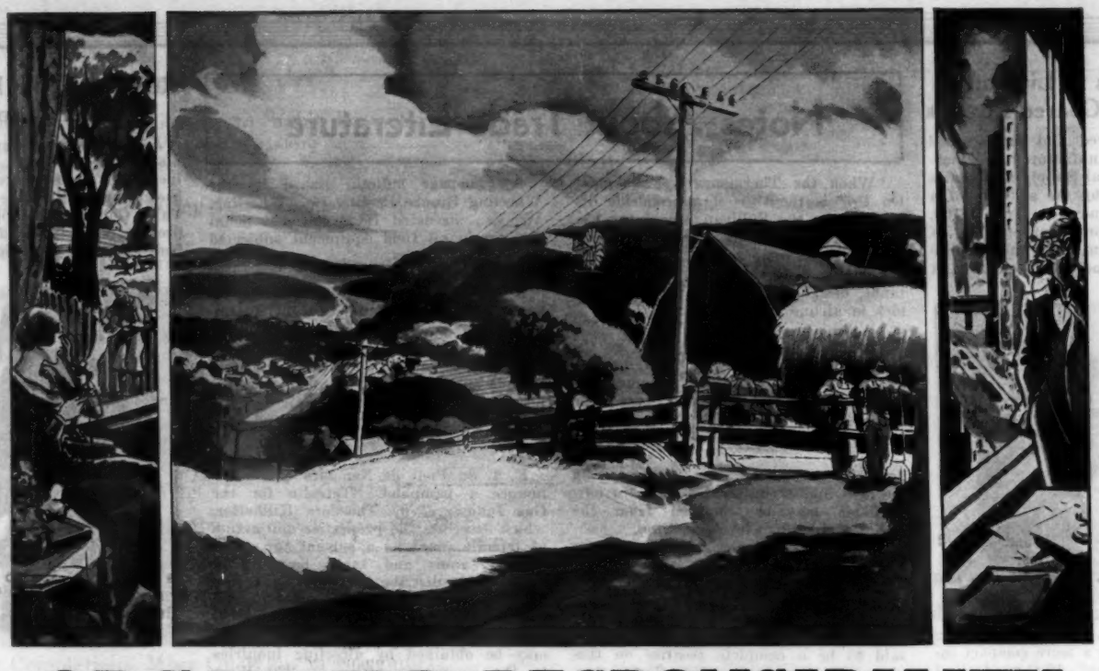
In the Oklahoma City Field few wells were drilled with less than three 125-horsepower boilers and many outfits used four boilers of this size.

For California deep tests the equipment used has for the most part been no heavier than that used in the Oklahoma City Field. In the December 24, 1931, issue of The Oil and Gas Journal you will find an article entitled "Deepest Test Completed in Oklahoma" describing the operations for the 10,079½-foot hole drilled by the Mid-Kansas Oil & Gas Co. in the Cement Field, Oklahoma. This gives information about the equipment used.

Why Was It Called That?

BIG INJUN

"Big Injun" was one of many fanciful names conferred upon oil wells by early operators. There was an eruption of them in the Bullion Field of Pennsylvania in 1877. Special fondness for names with an aboriginal color is seen not only in "Big Injun," but in "Little Injun," "Big Medicine" and "Big Squaw." Then there were "Big Bologna," "Big Potato," "Big Ghost" and "Great Leather." Others were "Old Teaser," "Old Owl," "Bluejay" and "Baby." A producing area near Titusville was called the "Grasshopper district." One well in it was known as the "Ladies' well." Records show that some of the wells that received pretentious names failed to live up to them. The Big Injun, for instance, starting off June 18, 1877, at 3,360 bbls. daily, was scarcely able to squeeze out 60 bbls. three months later.



ORGANIZED RESPONSIBILITY

Thanks to the miracle of the telephone, the smallest town is now but a few moments' away from the most distant metropolitan center. . . . . Unified control makes available to every community, in good times and poor, a single high standard of efficiency. . . . . The same principles hold true in oil well cementing. Only by winning and holding its dominant leadership could Halliburton make available to the industry the improvements developed, at a cost of hundreds of thousands of dollars, through its intensive field and laboratory research. Only under such conditions could Halliburton offer to the operators in quiet fields the same high standards of service as it gives to those in boom fields. Through such *organized responsibility* the industry is sure at all times of the scientific efficiency so essential to the life and productivity of its properties.

HALLIBURTON

OIL WELL CEMENTING CO.

Duncan, Oklahoma

NEW AND IMPROVED EQUIPMENT

National Adds to Line of Oil Field Geared Powers

The line of geared and band wheel pumping powers manufactured and marketed by the National Supply Companies has been increased by the addition of a new geared power, known as Type G-100, designed for the economical pumping of deep wells that ordinarily would require standard rigs and individual engines. It

is especially suitable for those operating conditions demanding a more compact installation that National's 15-C band wheel power.

For moderately high pumping speeds the G-100 geared power is rated at 100 horsepower. The lower crank has a 36-inch stroke with 12 well connections; upper stroke is 30 inches, with pistons for 8 well connections. The double reduction gearing is entirely enclosed in a rigid housing, oil-tight and dirt-proof. The gearing has been designed with large-diameter, wide-faced pinions, gaining low bearing pressures. Gears are alloy steel, generated by Gleason and by National.

Every bearing in the G-100 is a Timken, selected, in co-operation with Timken's engineers, to give a high factor of safety. An especially notable feature is the wide bearing spacing to handle the overhanging loads on the pinion shaft and the crankshaft. Extremely rigid mountings have been provided to maintain correct alignment. Lubrication is by a simple gear-driven pump enclosed in the housing. The lubricant is purolator-filtered, and an abundant supply of clean oil is supplied under pressure to every part of the enclosed transmission.

SPLASH-PROOF MOTOR DEVISED

The splash-proof motor to prevent entrance of water even when splashed with terrific pressure from any angle, yet adequately ventilated and built in the same dimensions as standard open motors, has been perfected by the Louis Allis Co., Milwaukee, Wis. A double baffle in an elliptical air passage in each endbell provides the protection offered by this new motor. This construction, while permitting free passage of ventilating air, traps and drains water splashed into the air openings at the bottom of the elliptical chambers. Another feature is a shaft guard which breaks the force of a stream directed along the shaft extension and prevents water from entering the bearing chamber. The motor is designed to provide an effective, economical, and practical protection where motors are subjected to splashing and dripping liquids or other falling particles.

The Four Wheel Drive Auto Co., of Clintonville, Wis., has adopted the five-day week in all departments, except sales and service. This gives an additional man work for every 10 previously on the force.

Notes About Trade Literature

"When the Thermometer Falls Costs Go Up" is the title of a broadside distributed by the Sullivan Machinery Co., 400 North Michigan Avenue, Chicago, featuring the company's "Little Smithy," a portable drill sharpener, and Tanner-tanks, designed to prevent freezing troubles in airline systems.

—

An illustrated folder prepared by the Adams Manufacturing & Engineering Co., 1317 North Bronson Avenue, Los Angeles, Calif., tells about two pipe lifting jacks, the model C, a one-man jack, and model AA, two-man.

—

A 24-page bulletin, No. 300, describing the new line of Bailey fluid meters now available, may be obtained from the Bailey Meter Co., Cleveland, Ohio.

—

The Armstrong Machine Works, Three Rivers, Mich., announces a new manual on steam trap engineering and containing complete information on the Armstrong inverted bucket steam traps. The book is said to be a complete treatise on this phase of steam engineering. Copies may be obtained on request.

A four-page bulletin issued by the Wheeling Bronze Casting Co., Wheeling, W. Va., discussed B&M antiacid metal for use in oil field equipment subjected to corrosive agents.

—

A bulletin on surface condensers issued by Ingersoll-Rand Co., 11 Broadway, New York, illustrates installations ranging from small units up to those of 160,000 k.w. capacity. Features discussed include single and two-pass construction, heart-shaped shell, external air coolers, longitudinal steam distribution, and tube sheet arrangement.

—

E. I. du Pont de Nemours & Co. announce a pamphlet, "Tetralin for the Gas Industry," by Theodore Killheffer, which describes the properties and action of tetralin, used as a solvent for naphthalene, gums and tarry material in cleaning gas distribution mains, in scrubbing for the removal of naphthalene and light oils, and in the recovery of casing-head gasoline from natural gas. Copies may be obtained by directing inquiries to the company's office at 260 West Broadway, New York.

Waterlox Is Announced as Preventive of Corrosion in Storage Tanks, Etc.

Waterlox, Inc., Detroit, Mich., with distributing offices in Tulsa and Dallas, has introduced Waterlox into the oil industry as an effective corrosion preventive for the coating of storage tanks, rundown tanks, heat exchangers, fractionating towers, treating equipment, pipe lines, tubing and tubing rods, machinery, tank cars, trucks, gasoline pumps, service stations, bulk plants and other equipment subject to rapid deterioration. Being nonsoluble in petroleum and its commercial derivatives, Waterlox lends itself to use on the inside of tanks as well as on the outside.

Waterlox is described as a thin, transparent liquid, slightly amber in color, which will penetrate and adhere to any clean surface free from grease or lacquer, and may be brushed, sprayed or used as a dipping solution. When thoroughly dry, Waterlox will not become brittle or crack, check or peel; but, rather, remains elastic, acting like a thin rubber sheet. It is designed to resist the action of salt water, salt air, rust, certain acids such as sulphuric and hydrochloric acid fumes and corrosive gases such as hydrogen sulphide, as well as calcium chloride and tri-sodium phosphate.

It is reported that Waterlox used on the inside of refinery rundown tanks, where operating on sour crude, has eliminated hydrogen sulphide corrosion to the extent of doubling the life of the tank decks and top rings, with no deterioration of the preservative coating to date. It is also being used on field storage tanks and lease tanks, as well as on the inside of aviation gasoline tank trucks.

It is said that Waterlox is an ideal aluminum bronze powder vehicle, in that it expands while drying and, when dry, has the ability to contract and expand with the surface upon which it is applied. Its ability to withstand temperature extremes from 50° below zero to 700° F. permits its use on many surfaces which, heretofore, have been impracticable to paint, such as Diesel engine exhaust pipes and other high temperature equipment. It has been shown particularly durable also on tank cars and refrigerator cars.

Waterlox is used also as a color-pigment vehicle in the painting of tank trucks, dispensing equipment and service station buildings, where it is said to resist chalking and fading and rapid breaking down from the action of gasoline and other destructive elements.

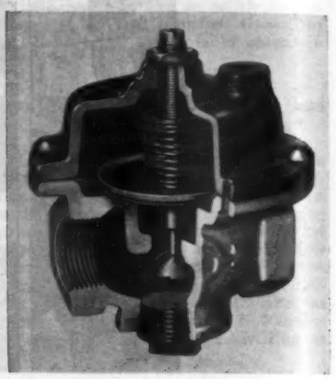
Waterlox is used as a waterproofing compound as well as a corrosion preventive. When applied on concrete, plaster, stucco or brick, it is said to penetrate and seal the pores and render the surface impervious to water, grease and oils. By its ability to lock-in calcium chloride and destroy the action of Glauber-salts, it is said the peeling of paint is eliminated. Its use on concrete floors, brick and stucco buildings and service station driveways is said to have solved many irritating problems and materially reduced the cost of upkeep.

Shunt Principle Used in New Trailer Arc Welder

The Universal Power Corp., Cleveland, Ohio, in developing its new V-8 engine-driven, 300-ampere arc welder of high speed, portable trailer type, has used the shunt inductor principle for arc stabilization, similar to that used in their motor generator sets. The combination of the shunt inductor with the V-8 engine, is said to have effected a gas-driven arc welder performance of unusual stability and flexibility. Mounted on two-wheel doughnut tires, the welder is adapted for structural steel erection, pipe line extension, general maintenance and repairs.

Regulator for Domestic Installations Announced

A new low-pressure gas appliance regulator, the Calemco, made in one-half inch and three-quarter inch sizes, has been developed by the Merco Nordstrom Valve Co. It is for appliance service and presents several new features. The main body casting is hot dipped, galvanized on



both inside and outside surfaces. The cover is black-enameled. The device has a bronze valve designed to give sensitive control on a low-pressure drop and permitting a large volume flow through the regulator.

The bronze valve unit maintains alignment. Its stem, firmly screwed into the top plate, is always concentric with the ground contacting lip of the main body. A specially developed and treated leather diaphragm is embodied. The regulator has a two-way inlet for service line connections and adjustment can be made by turning the screw stem. Details may be obtained by addressing the manufacturers at 2431 Peralta Street, Oakland, Calif. Merco Nordstrom Valve Co. is a division of the Pittsburgh Equitable Meter Co.

Pacific Is Manufacturing Line of Deep-Well Pumps

The Pacific Pump Works, Huntington Park, Calif., builder of centrifugal pumps for oil refineries, has added a line of deep well oil pumps to its list of products. The Mid-Continent Pump Supply Co., a subsidiary established in Tulsa, carries a full supply of liner pumps and renewal parts, and is equipped for service, including the regrinding of plungers and liners. The Mid-Continent Pump Supply Co. is headed by Roy A. Dunbar.

In announcing the oil well pump line, George E. Bigelow, general manager of the Pacific Pump Works, says that the insert liner pump, wherever it can be used, is an efficient and reliable pump for the pumping of oil from deep wells, and that with an efficient regrinding service, such as that established by the company in Tulsa and Huntington Park, oil production costs are materially reduced.

Ralph Van Matre is in charge of oil well pump sales for California. Frank Hudson is in charge of manufacture and Jim Edwards is in charge of the assembly department. These men have had years of experience and are well known in the industry.

There are four new bulletins describing the various types of Pacific liner pumps in detail, which will be mailed to anyone writing the Pacific Pump Works, Huntington Park, Calif., or the Mid-Continent Pump Supply Co., Tulsa.